T O U R I S M

NATURAL RESOURCE BASED TOURISM IN NORTHWESTERN BRITISH COLUMBIA

ECONOMIC & REGIONAL DEVELOPMENT AGREEMENT

Canada

BC

ERRATA

Please note an error on page 5-13, Tourism Product Location Factors, Heliskiing; and in Appendix 1: Tourism Product Summaries.

The quality modifer ratings, as defined in the text on page 5-12, have been reversed. The '2' ratings should be read as '1's and the '1' ratings should be read as '2's.

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NATURAL RESOURCE BASED TOURISM IN NORTHWESTERN BRITISH COLUMBIA

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The responsibility for the content of this report is the consultant's alone, and the conclusions reached herein do not necessarily reflect the opinions of those who assisted during the course of this investigation nor the federal and provincial governments which funded the study.

Industry, Science and Technology Canada
Industrie, Sciences et Technologie Canada

British Columbia
Ministry of Development, Trade and Tourism

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1.0 INTRODUCTION

1.1 BACKGROUND

While tourism has been viewed traditionally as a market-driven service industry, recently the recognition has developed that its prosperity is largely dependent upon a quality land and water base. Scenic viewscapes, abundant wildlife, wilderness, wild rivers and intact coastlines are all important ingredients in the tourism product. Therefore, tourism must also be regarded as a natural resource sector.

This is particularly so in British Columbia where the province's second largest industry and number one employer promotes itself to the world with the slogan of 'Super,Natural', using images of exceptional environmental integrity. Government and industry are now realizing that the tourism resource base must not be degraded, either by indiscriminant tourism development nor by the uninformed actions of other industries. As a result, B.C.'s Ministry of Development, Trade and Tourism (for the purposes of this study called the Ministry of Tourism) is the first in Canada to incorporate a resource management capability, the Sustainable Development Branch, within its structure. Indeed the Ministry is a pioneer in the development of tourism resource management.

The first step in tourism resource management requires inventorying and mapping the land and water base. In the past few years studies undertaken for the B.C. government have begun to identify those elements required for the tourism resource inventory process e.g. preliminary mapping 1:2,000,000 and 1:600,000 scale of the provincial tourism resource - Ministry of Tourism and Commercial Backcountry Recreation Studies - Ministry of Crown Lands. This work has progressed to the point where inventory procedures can and must be more precisely defined and standardized. The requirement now is for a planning tool which provides information both on the geographic distribution and relative quality of the tourism resource. Such a strategic planning capability will enable priorization of government activities and provide the tourism industry with the effective technical basis to participate in multi-resource management exercises.

The need for such a strategic tourism resource management capability is especially apparent in northwestern British Columbia. Here the spectacular scenic, wilderness and wildlife resources of the North by Northwest Tourism Region (NxNW) sustain a strong and growing industry. However, since it is so strongly outdoor oriented, tourism in northwestern B.C. is subject to competition from other users such as forestry, mining and commercial fishing. If conflict situations (such as the one that developed between steelhead fish operators and loggers on the Babine River) are to be resolved through integrated planning exercises, detailed and economically valued resource inventory information must be compiled. To date, this has been minimally available within the region.

To begin to address this inadequacy, the Northwest Guides and Outfitters Association - along with the B.C. Ministry of Tourism - sponsored this study entitled Resource Based Tourism in Northwest British Columbia. This study provides a comprehensive insight into the nature and

economic significance of resource-based tourism in northwestern B.C. and a strategic tourism resource model (STRM) which provides detailed inventory and resource planning information for district-level land-use exercises.

This project complements the Smithers Tourism Impact Study - undertaken concurrently under the sponsorship of the Smithers Chamber of Commerce and funded by the Ministry of Regional and Economic Development (MRED)- to provide economic tourism data for that community and its surrounding area.

1.2 STUDY OBJECTIVES

The Northwest Study has four objectives:

a) identify the extent and distribution of resource based tourism in northwestern B.C.

b) provide an economic profile of the significance of the region's resource-based tourism industry

c) develop a strategic planning model based on a rigorous, reproducible methodology to inventory and analyze the tourism resource

d) demonstrate this strategic tourism resource model for a test site surrounding Smithers.

1.3 STUDY AREA

This Northwest Tourism Resource project incorporates two nested geographic study areas. First, regional tourism resource and economic profiling was done for northwestern B.C. as defined by the combined areas of the North Coast and Nechako Economic Regions. This region was chosen as it corresponds well with the boundaries used by the various provincial resource agencies and also the Ministry of Tourism. It also includes the great majority of the North by Northwest Tourism region - especially that portion in which the sponsoring organization, the Northwest Guides, operates. Since the part of the NxNW tourism region excluded contains only a small percentage of the region's natural resource-based tourism product, the relevance of tourism statistical data is not significantly affected.

This northwest region stretches 600 km from Endako in the east to the Queen Charlotte Islands in the west, and 900 km from the southern tip of the Charlottes north to the Yukon border. It is an enormous area: 29,724,000 ha - larger than the British Isles - representing some 34% of the province (Map 1). The regional population of 102,000 is focused along the Highway 16 corridor and northeastern Queen Charlotte Islands.[1]

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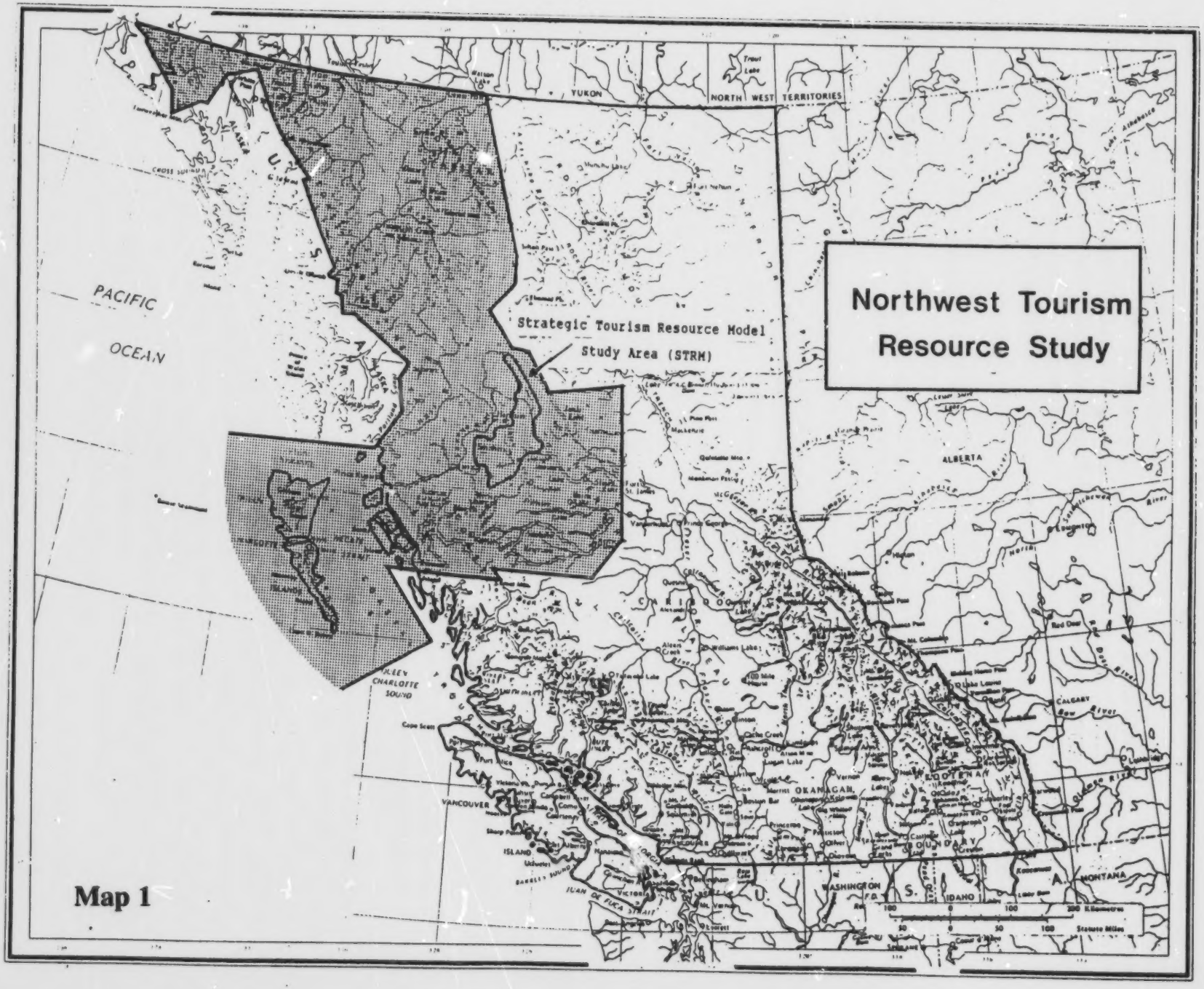
[1] *B.C. Ministry of Regional and Economic Development: Regional Economic Profiles: Nechako; North Coast*


Northwest Tourism
Resource Study
Strategic Tourism Resource Model
Study Area (STRM)
PACIFIC
OCEAN
YUKON
NORTH WEST TERRITORIES
ALBERTA
VANCOUVER
ISLAND
OKANAGAN
WASHINGTON
IDAHO
MONTANA
CALGARY
Map 1

Development of the strategic resource inventory methodology (STRM) has been undertaken for a portion of northwestern B.C. in the area surrounding Smithers. The area chosen for this more intensive pilot study is limited by the boundaries of the Bulkley Timber Supply Area (as defined by the B.C. Ministry of Forests - Map 3). It reaches from Babine Lake in the east, to the Copper River in the west, and from Quick in the south to the headwaters of the Nilkitkwa River in the north - a total of 660,000 ha.

1.4 STUDY PROCESS

.1 Regional Tourism Resource Analysis

An initial task involved the updating of the 1:600,000 tourism resource inventory mapping (undertaken by the Ministry of Tourism in 1987). Input for this revision was gained from:

- Ministry of Forests: Recreational Opportunity Spectrum Mapping (ROS), Recreation Features Mapping and Wilderness Mapping
- Ministry of Parks: Parks System Plan Mapping
- North by Northwest Regional Tourism Association: published literature
- Northwest Guide Outfitters Association: member input.
- Ministry of Crown Lands: Ministry regional land use files
- Ministry of the Environment: Fish and wildlife biologists

This update incorporated the Tourism Zonation System's Front/Mid/Back and High/Medium/Low resource classifications to assist in planning and priorization.[2]

The intent of this updated mapping was to enable the Ministry of Tourism, the North by Northwest Tourism Region and the tourism industry to identify the priority of resource areas when responding to integrated planning exercises with other land use industries and also when setting management priorities.

A mylar working set of this updated 1:600,000 mapping was provided to the Sustainable Development Branch, B.C. Ministry of Tourism in Victoria.

Building upon this mapping analysis, a description of the region's tourism resource patterns of northwestern B.C. was prepared. (Chapter 2.0). This was based on a broadscale regional assessment of those physical, human and natural resource factors which determine the distribution and quality of the tourism resource.

---

2. Developed by Ethos Consulting in: Adventure Tourism in Western Canada.

.2 Regional Tourism Economic Overview

A regional overview on the economic significance and nature of resource-based tourism in northwestern B.C. was undertaken (Chapters 3 & 4). This was compiled from existing visitor surveys (e.g. Visitors '87 & '89; Residents '89) as well as tourism sector studies (e.g. Guide Outfitters, Fish Lodges/Resorts, Marine Tourism). Economic data generated through the Smithers studies supplemented this material.

.3 Development of a Strategic Tourism Resource Model

A methodology for inventorying and analyzing the tourism resource was developed and applied on a pilot basis to the Smithers hinterland (Chapter 5). While this was done at 1:250,000 scale using mylar overlays, this Strategic Tourism Resource Model (STRM) could be easily digitized onto a computerized Geographic Information System (GIS). The STRM is an inventory/analysis methodology which enables the tourism land base to be assessed for capability and development potential. It is based upon a set of geographically defined biophysical, human, and natural resource location factors. STRM provides a standardized means to identify viable sites for particular tourism products. It is designed to be applicable throughout B.C.

Benefits of STRM are that :

- it provides the tourism sector with the detailed information needed for improved participation in integrated planning exercises
- it enables priorization of government management effort/budgets
- it enables identification of environmentally and economically viable tourism development sites
- it incorporates the Tourism Zonation System's Front/Mid/Back coding to enable systems planning

The Smithers hinterland was selected as the STRM pilot site for a number of reasons:

- the community and its hinterland features a well-developed tourism economy
- a complete range of tourism zones (front to backcountry) are found here
- tourism resource significance ranges from international calibre to local
- it is of optimal geographic size for a pilot study
- it is serviced by a regional airport
- many of the leading tourism operators in northwestern B.C. are based out of Smithers. As well, the North by Northwest Tourism Regional Association and Northwest Guide Outfitters Association are located here.
- the Smithers Chamber of Commerce expressed its commitment to the project by obtaining funding through MRED for the Smithers Tourism Study, thereby enabling the parallel collection of economic data

The Bulkley TSA boundary was chosen to delineate the detailed STRM inventory/economic valuation study since it corresponds closely to the tourism land base which is directly accessible to Smithers by road and air.

1.5 STEERING COMMITTEE

A steering committee comprised of key representatives from the following agencies directed this project:

- Ministry of Development, Trade and Tourism
- North by Northwest Regional Tourism Association
- Smithers Chamber of Commerce
- Northwest Guide Outfitters Association
- Ministry of Forests
- Ministry of Lands and Parks
- Ministry of Environment

2.0 REGIONAL TOURISM RESOURCE DESCRIPTION

2.1 INTRODUCTION

The distribution and quality of the tourism resource in northwestern British Columbia determines the use patterns and development opportunities for the industry. The geographic characteristics of this tourism resource are the product of three main factors:

- biophysical environment factors
- human factors
- natural resource factors

2.2 BIOPHYSICAL FACTORS

The biophysical environment of a region such as northwestern B.C. can be differentiated into 3 sets of attributes:

1) landforms
2) climate
3) vegetation

Biophysical factors are unchangeable - or givens - which play a prime role in establishing the range of viable tourism activities that can be offered. For example, without sufficient snowfall skiing is not possible.

The general patterns associated with each of the three main biophysical factors in northwestern B.C. are summarized below.

1. Landforms

The topography of northwestern B.C. is predominantly mountainous - only the portion south and east of Smithers is situated in the comparatively gentle Interior Plateau. To the west, the Coast Mountains range up to over 2700 metres and encounter the Pacific in a maze of fiords. eighty kilometres offshore, the Queen Charlotte Islands feature lower mountains, with extensive beach shorelines on Graham Island and inlets to the south on Moresby.

The north-central part of the region is characterized by the extensive plateaux of the Spatsizi and Kawdy areas, which are dissected by large rivers, the Stikine, Iskut, Nass, and Skeena. The extreme northwestern portion features large mountain lakes, Atlin, Teslin, Tagish, and the remote ice age wilderness of the Tatshenshini where British Columbia's highest mountain is located (Mt. Fairweather, 4,636 m).

Given this topography, northwestern B.C. is an exceptionally diverse and scenic region. The extensive mountain ranges that dominate the majority of the area are a focal point for both frontcountry automobile touring, and backcountry adventure travel. The gradients associated with such terrain encourages the range of "gravity sports" such as downhill skiing, heli-skiing, ski-touring, and river rafting.

The fiords of the mainland coast as well as the long beaches and archipelagoes of the Queen Charlotte Islands provide high calibre marine opportunities for cruising, saltwater fishing and kayaking. The lakes country of the Interior Plateau provides high quality freshwater fishing. Throughout the interior, hunting opportunities are exceptional.

Beyond the landforms of northwestern B.C., the enormity and wildness of the region contributes to the nature of the tourism product. This results in products which feature touring and backcountry activities within a high quality natural environment.

By contrast, the frontier character and small regional population means that facilities are few in number and less developed than they would be in more southerly parts of B.C. This influences the types of markets in which northwestern B.C. is able to compete strongly. For example, the region is disadvantaged in trying to attract a clientel that seeks large destination resorts (such as Whistler or Panorama) but has an advantage in drawing those tourists from the U.S. and Germany who want to experience vast expanses of natural landscapes.

Another geographic feature of northwestern B.C. is its comparative remoteness from large population centres, major tourism flows and the mass-oriented transportation infrastructure (e.g. international airports) which service these. This remoteness increases the cost and time required of visitors to reach the region. Therefore, tourism flows are much smaller than for more accessible locations. The implication is that northwestern B.C. has, and will continue to rely on out-of-region travellers who specifically seek a top quality frontier experience, often within the context of a long-distance driving trip.

2. Climate

a) General:

Due to its more northerly location, the climate of the region is comparatively cool and features a short summer. This limits the length of the main tourism season and focuses it into the warmest months, June to early September. For example, 44% of Northwestern B.C. tourism activity occurs in the summer, compared with a provincial average of 31%. By contrast, the region's winter business accounts for only 7% of activity, compared with a B.C. average of 20%.

Such heavy seasonal skewing due to climate and geographic remoteness results in a short peak use period and a comparatively longer time when facilities are underutilized or closed. This is a disincentive to major private sector investment. To offset this, emphasis must be placed on the development of Northwestern B.C. tourism operations whose facilities can be used by residents in the offseason, or on those sites which have the opportunity for multi-season use, such as hotsprings.

Table 2.1: Tourism Season

Northwest Region	(%)	B.C. (%)
Winter	7	20
Spring	35	25
Summer	44	31
Fall	14	24

Source: Visitors' 89

The short season also places northwestern B.C. at a disadvantage in offering an activity such as golf (on a destination resort scale), since the snow-free period is limited.

Generally, the climate of the region becomes more severe with the progression northward. As a result, the favoured tourism locations often occur in the southern portion of the region, particularly along the Highway 16 corridor and the Queen Charlotte Islands.

b) Climate Regimes:

Weather patterns in northwestern B.C. range from wet maritime conditions on the coast to a much drier harsh continental regime in the interior.

The predominant air masses which affect the maritime portions of the region originate in the Gulf of Alaska and are typified by wet and comparatively milder air. When this air encounters the Queen Charlotte Islands and especially the mainland Coast Mountains, heavy relief precipitation occurs, exceeding 350 cm/year in the heart of the Coast Mountains. Therefore, coastal Northwestern B.C. experiences a high number of rainy days (e.g. the western Queen Charlotte Islands and North Coast endure more than 18 days with precipitation in January and 14+ days in July). Due to the region's northern latitude a substantial portion of this moisture falls as snow.

Maritime zone temperatures are moderated by the proximity to the Pacific Ocean, Prince Rupert's mean monthly average in January is 1.8 C and in July is 13.6 C. To the east of the Coast divide this moderating effect is lost. At Smithers, the mean January temperature is-10.6 C , and mean July temperature is 14.6 C. (See Table 2.2)

With the transition eastward, a rainshadow effect develops in the lee of the Coast Mountains. Precipitation diminishes and the number of sunshine hours increases.

Table 2.2: Climate of Selected Northwestern B.C. Communities

	Annual Precipitation	# of Sunlight Hours	Mean Jan. Temp (C)	Mean July Temp (C)
Prince Rupert	2302 mm	1036	1.8	13.6
Smithers	328 mm	1583	-10.6	14.6
Germansen Landing	268 mm	1753	-17.5	13.7

Source: B.C. Ministry of Environment. A Summary of Climatic Regimes of B.C.

As far as tourism is concerned, these precipitation patterns tend to encourage use in the drier interior sites, as at Smithers. The Queen Charlotte Islands have incorporated the wet climate into a more positive image using the the slogan of 'The Misty Isles'. The region's moister conditions do benefit tourism in the form of deep snowpacks which guarantee long ski seasons.

In the interior, continental climate conditions are associated with more extreme temperature swings throughout the year, summers are hotter and winters colder than on the coast. As well, air masses of arctic origin can dominate in the winter bringing very cold clear weather. These winter arctic highs sometimes surge out onto the coast accompanied by strong winds.

From a tourism perspective, the benefit of the continental climate is that it brings warmer summer temperatures which enable activities such as swimming. In winter, the colder temperatures result in dry powder snow which makes for quality skiing. However, particularly in the northern portion of the region, winter temperatures are often overly cold and thus discourage tourism use.

While detailed site-specific climate data is not available for the region, biogeoclimatic mapping undertaken by the Ministry of Forests gives insight, since vegetation communities are a living artifact of local climate patterns. This mapping provides the basis for the climate analysis done for this project, particularly for the STRM component.

c) Vegetation:

Ministry of Forests biogeoclimatic mapping has identified the presence of 10 plant association zones in northwestern B.C. These have been further subdivided into 34 subzones. From a tourism standpoint, this level of classification is overly detailed and the following composite zones (which are combination of various biogeoclimatic zones/sub-zones) are the most crucial:

- glacier (permanent ice cover)
- alpine (AT zone)
- parkland or subalpine (ESSF & MM parkland)
- general forest (BWBS, CWH, ICH, MM, SWB, SPBS, SBS zones)

(i) Glaciers: Glacier areas are the product of a harsh climate that features a combination of cold temperatures and high precipitation. They are associated with heavy storms and long periods of poor visibility. They can provide terrain which can be essential for heli-skiing. As well, glaciers can be important scenic features.

The main glacial areas in the Northwest occur along the spine of the Coast mountains. Sites of particular significance to tourism (especially for viewing) occur at Hudson Bay Mountain (Smithers), Seven Sisters Mountain (Hazelton), Bear Glacier (near Stewart), Great Glacier on the lower Stikine River, and the lower Tatshenshini River.

(ii) Alpine: Alpine vegetation areas are very scenically attractive and important for backcountry tourism use, e.g. hunting, wildlife viewing, backpacking and trail riding. Much of the northwest features this zone. The increasingly cooler climate from south to north is associated with a lowering of the tree line elevation.

(iii) Subalpine: Subalpine parklands are much less extensive than the alpine zone, but are very important to tourism use. The combination of interspersed dwarf trees and meadows are extremely attractive - especially when located near small lakes - and they often display exceptional flower concentrations. This zone, though restricted, is distributed widely throughout the region on the verges of the alpine. It is important for activities such as camping, ski-touring, snow-cat and down-hill skiing and backpacking.

(iv) General Forest: The general forest zone is the dominant vegetation cover in the southern portion of the region, and is abundant farther north. Extensive general forest vistas offer tourists a sense of environmental quality. This can be lost when extensive clearcutting occurs with resultant loss in tourism values. Old growth forest is becoming increasingly rare and ever more valued by tourists as logging diminishes the extent of remaining stands. This is particularly so for the large diameter timbered stands still remaining on the Queen Charlotte Islands and also for other other sites where whole watersheds still remain intact as in the Kitlope. The protection of old growth timber in an area such as South Moresby is of strong importance to tourism.

2.3 HUMAN FACTORS

At the regional scale, the two main human-created factors that define the tourism resource are:

1) Land Status
2) Access

As mentioned in chapter 5 (Methodology), human factors can change with time, for example when a new airport is built. Such changes may lead to a partial redefinition of the tourism resource base.

1. Land Status

a) Crown Land:

By far the predominant land status in northwestern B.C. region is Crown Land. Tourism developments on Crown Land require provincial government agency approvals. The recent growth associated with the tourism industry has led to a rapidly increasing demand for Crown land permits. In the past, the permitting agencies (Ministry of Forests, Crown Lands, Parks, Environment) have not had sufficient information as to the requirements and impacts of such potential operations to evaluate permit applications. In particular, a lack of tourism inventory has made it difficult for agencies to identify viable and environmentally suitable new development sites.[1] The methods and data provided by this study can help rectify this.

b) Private Land:

Private land is focussed around settled areas: near communities, along the Highway 16 corridor (particularly in the Bulkley Valley and Lakes District areas) and on the northeastern Queen Charlotte Islands. Private land offers tourism operators more secure tenure and makes financing easier. As a result, a substantial portion of the northwest tourism industry is located on these lands.

c) Native Indian Lands:

Northwestern B.C. region features a significant native population with settlements focussed at Burns Lake, Moricetown, the Hazeltons, Kitwanga, Kitimat, lower Nass Valley, Iskut, Telegraph Creek, Prince Rupert, Port Simpson, Masset and Skidegate.

While native land ownership is currently associated with compact Indian Reserves, extensive land claims have been registered for much of northwestern B.C. region by the various bands (e.g. Haida, Nishga, Tahltan, Kitima'at, Gitksan-Wet'suwet'en). Depending on the outcome of these claims, the administration of many of the lands of importance to the tourism sector could change. The present mood of confrontation associated with this issue could adversely affect visitor numbers and tourism's economic welfare in the region in the short term. Developing dialogue between the industry and the various native bands would be desirable to help lessen tensions and increase understanding.

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[1] *Even when viable tourism development sites are identified, the siginificance of these may be obscured due to a lack of data.*

d) Parks and Recreation Areas:

National and Provincial Parks and Recreation Areas often protect land areas of tourism importance and also serve to attract visitors. These areas also function as important marketing elements in the promotion of tourism. As well, the parks and recreation areas retain intact natural landscapes which are so crucial to the 'Supernatural' experience that visitors seek. Particularly in northwestern B.C. region, where the emphasis of traveller trip purpose relates so much to a quality natural environment experience, parks designation is an important tourism resource consideration.

In northwestern B.C. there are 9 major parks whose primary tourism significance are as follows:

Table 2.3: Protected areas in Northwestern British Columbia

South Moresby National Park Reserve	- cruise, kayak wildlife view
Naikoon Prov. Park	- backpack, beach, wildlife view
Gitnadoix Prov. Rec. Area	- rafting, wildlife viewing, fishing
Fiordland Prov. Rec. Area	- cruise, kayak
Tweedsmuir Prov. Park (north 1/2)	- hunt, fish, backpack
Babine Mountains Rec. Area	- backpack, wildlife view
Spatsizi Plateau Prov. Park	- wildlife view, hunt, backpack, canoe
Mt. Edziza Prov Park	- backpack, wildlife view, hunt
Atlin Provincial Park	- backpack, hunt, wildlife view

Source: B.C. Parks Map

In addition to these protected sites, preservation proposals containing important tourism values have been advanced for the following locations as part of the Ministry of Parks, Parks Plan '90 and the Ministry of Forest Wilderness Planning Process :

Table 2.4 Areas Proposed for Preservation in Northwestern B.C.

Tatshenshini River	- raft, wildlife view, hunt
Haines Highway corridor	- car tour, wildlife view
Skagway Highway corridor	- car tour, wildlife view, backpack
Jennings Lake	- fish
Kawdy Plateau	- hunt, wildlife view, backpack
Upper Chutine/upper Whiting	- hunt, wildlife view, backpack
Taku River	- fish, wildlife view, hunt
Lower Stikine	- raft, wildlife view
Bear Glacier	- auto tour, backpack
Khutzeymateen	- wildlife view
Aiyansh Lava Flow	- auto tour, hike
Damdochax Lake	- hunt, fish
Sustut River	- fish
Shelagyote Peak	- hunt, wildlife view
Babine River	- fish, raft, wildlife view
Swan Lake	- wildlife view, canoe
Seven Sisters	- auto tour, hike
Burnie Lakes	- backpack, hunt, fish, ski-tour, climb
Foch Lake	- cruise, fish, camp
Dundas Island	- cruise, camp
Campania Island	- cruise, camp
North West Graham Is/Langara	- nature view, fish

Source: Parks Plan '90; Ministry of Forests Wilderness Planning Process, Northwest Guides

e) Resource Extraction Tenures:

The commercial forest values of the region have been assigned to the forest industry under Tree Farm Licence (TFL) or Timber Supply Area (TSA) tenures. While TFL's afford more resource control to the companies than TSA's, in both cases the allocation of the commercial timber cut has often been done with minimal regard to possible impacts on the tourism resource. As a result, forestry-generated impacts on tourism already exists, and has the potential to be far greater.

Under mining law, the subsurface is available for mineral staking (unless a staking reserve is in place). This permits the staking of sites which may be of importance to tourism (e.g. potential lodge sites, key recreation locations). Of particular concern, is the roading and exploration practices which accompany such staking since they can result in substantial visual disturbance and provision of access to high value, fragile wilderness tourism sites.

2. Access

The access elements that affect the tourism resource include:

- airports
- highways
- resource roads
- trails
- railways
- marine cruise routes

a) Airports:

Air travel is an essential element of modern tourism in extensive and comparatively isolated regions like northwestern B.C. Distant markets - especially those from overseas - can only access them if a good network of regional (jet capable) airports, smaller strips and landing sites exist. Such travellers are constrained by time and will only come to a place like northwest B.C. if they can do so promptly. Therefore the opening or closure of a regional airport or changes in the air service can enhance or degrade tourism potentials. For example, adventure tourism operator interviews indicate that for their business to be viable they must be within a certain maximum drive time of a regional airport (e.g. for heli-skiing the maximum is 5 hours drive, for ski-touring it is 3 hours)[2]

In northwestern B.C., regional airports are located at Smithers, Terrace, Prince Rupert and Sandspit and are regularly accessed by major carriers. Smaller airports are located at Burns Lake, Houston, Masset, Stewart, Dease Lake, Cassiar, Atlin and east of Vanderhoof. These feature scheduled service by smaller aircraft (e.g. Twin Otter, DC3) supplied by regional carriers. Such locations function as staging areas from which hunting, fishing and adventure tourism clientele are then transported into the backcountry.

Many of the more remotely situated backcountry operators rely on bush plane service - based out of the regional or smaller airports - to fly guests in. Some operators even own planes themselves.

Finally, helicopters based at airports and elsewhere throughout the region are used to ferry guests into locations unsuited to fixed wing landings. Choppers are expensive so that economics generally dictate a maximum half hour shuttle flight distance from base. (Although choppers are used to supply much more distant sites.)

b) Highways:

As indicated in section 3.2, 87% of all visitors to northwestern B.C. travel by road and their

[2] *Interviews were undertaken as part of the Commerical Backcountry Receration studies on the Kootenays, Whistler-Pemberton, East Cariboo areas.*

vacation focusses around long-distance touring. The region's tourism sector is heavily dependent on the fact that it is on the road to Alaska (via the Stewart-Cassiar) and also on the Inside Passage/Highway 16 loop. Despite the huge size of the region, the great majority of tourism activity focuses on these corridors and the communities strung out along them.

Of increasing tourism importance are the shorter highway routes in the far northwest, such as the Haines and Skagway Highways, but these require travel on the Alaska Marine Ferries system. Also, a short portion of the Alaska Highway traverses the northern edge of the region west of Lower Post.

c) Resource Roads:

Major resource roads (e.g. the Kitsumkalum road to Aiyansh) are used by touring travellers, especially those with recreational vehicles.These roads provide essential access to remote tourism base camps, as well some activities such as snow-cat ski operations are completely dependent upon road access to alpine areas in order to be viable. On the other hand, resource road access can seriously degrade the integrity of wilderness tourism operations such as backcountry hunting.

d) Trails:

Trails provide essential recreational access and are part of the outdoor/adventure tourism experience for backpacking, trail riding, hunting, wildlife viewing and ski tour operations in wilderness areas throughout the region, e.g. Spatsizi, Mt. Edziza, Kawdy etc.

e) Railways:

Passenger rail touring is presently of minor significance in the region. VIA rail service is available from Prince George to Prince Rupert although it is not heavily promoted. However, the potential exists to package this rail service with an Inside Passage cruise to offer a distinctive northwestern B.C. tourism oriented travel experience which could appeal to national, U.S. and overseas markets.

Rail service is also provided on the Yukon White Pass Railway out of Skagway. However, this can only be accessed from Alaska.

f) Marine Cruise Routes:

Ferry and cruise ship service is provided along the Inside Passage and also to the Queen Charlotte Islands. As far as the cruise ships are concerned (which focus on Alaska as their destination), although the scenery of this coastline is world class and 271,000 [3] passengers are

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[3] Estimates for the number of passengers carried along the coast range to a high of over 400,000. However, considerable such a figure may include considerable double counting. Therefore this lower number is used based on the survey numbers of passengers arriving at or leaving Alaska ports as cited in: Alaska Visitors Arrivals, Summer 1989. Data Decisions Group Inc.

transported along it each year, the lack of docking facilities for large vessels severely limits the regional economic benefits that accrue. Currently, the only site in the northwest where these ships can dock is at Prince Rupert.

The B.C. Ferries system caters in part to touring travellers providing overnight service along the Inside Passage from Port Hardy to Prince Rupert and also between Prince Rupert and the Queen Charlotte Islands. Once again docking points are few: at Prince Rupert, Skidegate and Bella Bella. As well, Prince Rupert is a port on the Alaska State ferries system. This enables Alaska destination tourists to travel one leg down the Panhandle and drive from or to the U.S. via Highway 16.

2.4 NATURAL RESOURCE FACTORS

Natural resource attributes can both enhance and diminish tourism opportunities. For example, clearcutting a prime viewscape can hurt the viability of a fishing lodge, whereas husbanding wildlife habitat can increase viewing and/or hunting opportunities. The following natural resource elements affect tourism in northwestern B.C.:

- forestry
- mining
- fish
- wildlife
- visual resources
- local recreational use

1. Forestry

Commercial forestry has a major effect on the tourism resource in the southern portion of the region. Impacts are particularly significant on the Queen Charlotte Islands - where good timber growing conditions occur and large dimension trees have been extracted with extensive clearcuts. This activity - while economically preferable from the forester's perspective - results in visual disturbance which significantly diminishes tourist satisfaction. Similar large scale disturbance in the Kitimat and Kitsumkalum valleys has strongly impacted upon tourism values. So too, operations along Highway 37 from Meziadin to Bowser Lakes and up the Skeena are of concern. The need to protect the visual integrity of the Highway 16 corridor has been recognized by a Ministry of Forests planning exercise, here concern has been expressed as to the effects that logging will have on sites such as the Seven Sisters Range, and the Skeena River corridor west of Terrace.

In the Interior Plateau portion of the region, the terrain is gentler so that visual impacts are more easily hidden. Still, proposals to log along the Babine and Sustut Rivers have raised strong concern amongst tourism operators. Here world class sports fishery and wildlife viewing values are at risk from visual, siltation, habitat destruction and access impacts that could occur with logging. As well in the Khutzeymateen Valley, concern exists that proposed

logging activity here could undermine grizzly viewing adventure tourism values.

North of Latitude 56 30" (Bowser Lake; Sustut River) commercial forest values drop off due to the increasingly harsh growing conditions. Still, a proposal for a pulp mill (at Meziadin Lake) could intensify logging activity along the Highway 37 corridor. This could result in increased visual impacts on one of the more significant tourism areas of northwestern B.C.

Integrated planning exercises - generally headed by the Ministry of Forests - do provide tourism (and other land-users) an input as to how the cut might be modified for key sites. However the present lack of tourism resource information means that the tourism industry is strongly disadvantaged when trying to safeguard its environmental values from logging impacts.

2 . Mining

While mine operations tend to be localized and of lesser impact to tourism, the exploration practices historically associated with this industry can cause serious impacts. Bull-dozer trenching in the alpine, indiscriminant roading - through valued areas, sensitive wildlife range or high calibre wilderness sites - can and has affected the viability of operations such as guide outfitting businesses. For this reason, a proposed major open pit mine proposed for the Tatshenshini valley is opposed by adventure tourism operators who say that the mine and its associated 100 kilometre long access road would severely impact the finest wilderness rafting river in Canada.

Opportunities exist to reduce impacts from mining. These would require use of helicopters and diamond drilling rather than bulldozers and trenching in the exploration of sensitive areas, bonding to ensure exploration site clean-up and integrated planning to avoid detrimental roading. However, such revisions to mining activities are unlikely to occur until the tourism resource is more clearly defined and potential conflicts with mining can be identified.

In northwestern B.C., knowledge of mining/tourism interactions is important since the region is mineral rich. While mineralization patterns are complex, areas of most concern occur in the Stewart/Unuk/Iskut zone, where numerous gold properties occur; gold is also found to the northeast of the Spatsizi. Major copper deposits are known in the Lower Stikine, the Tatshenshini, around Granisle and the country south west of Houston. A large molybdenum property is located underneath Hudson Bay Mountain at Smithers. As well, coal fields have been found in the Klappan and Groundhog areas and also at the Telkwa Pass near Smithers; however, these have not yet proved economic to develop.

3. Fish

Fisheries are important to commercial, native and sports fishermen. While the latter user group falls directly within the domain of tourism, the other two can affect this industry.

Conflicts between commercial and sports fishing is increasing in the northwest. According to a

survey of operators undertaken in the Marine Tourism Opportunity Analysis Study, this is considered to be the most serious resource problem affecting the marine tourism sector.[4] This not only relates to the need to share quota but also to the fact that accidental by-catch of steelhead by the commercial fisheries is considered by fishing guides to already be seriously affecting this resource.

Native use also affects the sports fishery. Currently, a portion of the overall quota is allocated for native subsistence fishing. However, the present situation could change drastically depending on the outcome of native land claims. One area where a dispute has developed between these two user groups is at Langara Island on the northwestern tip of the Queen Charlotte Islands. Here Haida Indians have blockaded sports fishing camps.

Northwestern B.C. posesses an exceptional freshwater sports fishing resource. The Skeena wild run steelhead fishery is particularly notable, with rivers such as the Kitsumkalum, Copper, Kispiox, Babine, Sustut, Bulkley and Morice providing some of the best opportunities to catch trophy sized fish in the world. In order to maintain top quality fisheries on some of these rivers, the Babine, Gitnadoix, Sustut and Copper have all been afforded a Class 1 classification by the B.C. Recreational Fisheries Branch and subjected to a restricted catch management system.

Saltwater salmon fishing focuses on the north and west coast of Graham Island (including Langara Island), around Prince Rupert and in Douglas Channel. The Lakes District around Burns Lake is a longstanding freshwater fishery as is Babine Lake. As well, fishing is a key product at backcountry sites throughout the region including the Spatsizi, Taku River and Damdochax Lake.

The opportunity to watch large numbers of spawning salmon is a tourism spectacle. Key sites which are easily accessible by road include: Moricetown Canyon on the Bulkley, the Babine River and Meziadin Lake.

4. Wildlife

The opportunity to watch or hunt a wide diversity of wildlife is one of the premier tourism attractions of the region. Certain areas of the northwest are associated with world-class wildlife resource values. Here large numbers and a range of species occur. Such highlight areas include: Spatsizi (known as the Serengetti of Canada), Tatshenshini, Kawdy Plateau, Mt. Edziza, South Moresby.

The list of premier species and some of the sites where they occur in exceptional numbers or frequency are listed in Table 2.5:

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[4] *See Marine Tourism Opportunity Study, Exhibit 15.2*

Table 2.5: Key Wildlife Locations in Northwestern B.C.

Grizzly bears	- Tatshenshini R., Babine R., Khutzeymateen, Meziadin Lake, Spatsizi Plateau, Mt. Edziza
Kermode bears-	- Princess Royal Island, Terrace, Stewart
Glacier bears	- Tatshenshini
Dall Sheep	- Tatshenshini
Stone Sheep	- Spatsizi, Kawdy, Mt. Edziza
Mountain goats	- Nass, Telkwa, Babine Mountains
Moose	- the Interior Plateau especially: southwest of Spatsizi
Caribou	- Spatsizi, Mt. Edziza, Kawdy, Telkwa Mountains
Mule Deer	- Bulkley Valley, Lakes District
Wolf	- Tatshenshini, Spatsizi, Babine River
Gray Whales	- Queen Charlotte Islands
Killer Whales	- Queen Charlotte Islands
Migratory Birds	- Nass and Skeena estuaries

Source: Wildlife Viewing in B.C.: The Tourism Opportunity

For species such as grizzly, caribou, sheep, etc., it's the extensive areas of wilderness that remain intact in northwestern B.C. that maintains this outstanding resource. Development activities such as logging, mining result in habitat change which can impact negatively on habitat (e.g. decreased cover). Roading (which is an ancillary effect of these activities) can create serious problems due to increased access and hunting pressure. This can lead to declining wildlife numbers and associated tourism-related hunting and wildlife viewing values.

5. Visual Resource

While any site can be said to have a visual attribute, the areas where this most affects tourism is in the more intensely used frontcountry: along highways, surrounding communities and destination resorts. On a more localized scale, visual quality is also important for midcountry viewscape areas i.e. around fish and guide outfitter lodges. In the backcountry, visual integrity is a high value quality of wilderness.

In northwestern B.C., the frontcountry areas with the most critical visual resources are found along Highway 16 - particularly in the section west of Houston where highly visible mountainous viewscapes occur - along the Stewart Cassiar, Haines and Skagway Highways, as well as along the Inside Passage. Around communities visual qualities are of especially high concern at Smithers and Hazelton, where dramatic mountainscapes are crucial to the tourism resource.

As mentioned, degradation of important visual resources along Highways 16, 37, and the upper Inside Passage have already occurred. Unless careful visual planning is done and some

locales protected from logging (e.g. Hudson Bay Mountain and the Babine Range near Smithers) substantial further visual impacts could occur.

6. Local Recreational Use

Local non-commercial recreation can either be compatible or conflict with tourism. This depends on the particular activity. For example, in the mountains around Whistler, commercial heli-skiing operation have created impacts in an area traditionally used by locals for ski-touring. By contrast, commercial and non-commercial snowmobiling use is often compatible, as at the Big Onion area in the Babine Mountains east of Smithers.

In northwestern B.C., the likelihood of tourism/non-commercial recreation conflict is much reduced due the extensive land base and the low population density. The areas where the potential for conflicts with non-commercial recreationalists are greatest will be on sites immediately proximate to the larger communities (Prince Rupert, Terrace, Kitimat, Smithers). For example, resident recreational hiking use of the Babine Mountains near Smithers will likely make this unsuitable for commercial heli-hiking. On the other hand, shared use of the Smithers ski hill for both resident and tourist use is likely to be favoured to improve the viability and facilities of this operation.

7. Cultural Heritage

Cultural heritage values contribute to the tourism resource. In the northwest these values focus on native heritage and historical remnants. Key values include: the totem poles and native village remains found at sites such as: Kitwancool, Skedans, Anthony Island. As well, Euro-asian historical sites such as abandoned towns and forts (eg. Ft. St. James) will be attractive.

2.5 TOURISM ZONATION SYSTEM: Front/Mid/Backcounty

The Tourism Zonation System (TZS)[5] is a planning tool used to differentiate natural resource-based tourism product into urban, frontcountry, midcountry or backcountry zones according to:

- degree of natural environment modification (from urban to wilderness)
- type of tourism outdoors experience
- method of transport
- intensity of use
- scale of facilities (e.g. from destination resorts to cabins)

A systems land use planning approach, the Tourism Zonation System enables tourism facility siting, product development and marketing to be undertaken in an environmentally appropriate

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5 The Tourism Zonation System is discussed in: Ethos Consulting and L. J. D'Amore and Associates: Towards a Strategy for Natural Resource-Based Tourism - 1987.

and economically viable fashion. This front/mid/back system is especially relevant to a tourism industry such as that in Northwestern B.C. which is so dependent upon providing and maintaining quality natural environment products.

1. Urban Zone

The Urban Tourism zone corresponds with urban centres over 20,000 where a wide variety and intensity of tourism services are provided. Entertainment and cultural-based tourism is the strongest feature of this zone. Typically, urban-based tourism has little or no dependency on the Provincial or Territorial land-base. In northwestern B.C., given the small size of communities the urban zone occurs only in Prince George.

2. Frontcountry Zone

The frontcountry zone is characterized by excellent access, proximity to populated areas, and a general capability to attract and accommodate larger numbers of tourists. Examples of this zone in northwestern B.C. include the Bulkley Vallay around Smithers and the various highway routes. Frontcountry tourism involves substantial infrastructure: destination resorts, motels, restaurants, shopping areas, entertainment services, tourist attractions, ski areas, etc. Since the frontcountry is associated with motorized, high volume transportation - automobiles, tour buses, vans and commercial aircraft - this is the zone where automotive and bus touring occurs. Adventure tourism activities associated with the frontcountry include: daytrip rafting, daytrip ski touring, daytrip heli-hiking, guest ranches, scuba, highway-based nature tours and paved road bicycle tours.

Tourism in the frontcountry takes place in scenic but human-altered environments. In northwestern B.C., the frontcountry corresponds to the settled rural portions of the region such as the Bulkley Valley and the major highway corridors (e.g. Highway 16, Stewart-Cassiar, Haines, Skagway and Alaska Highways)

Frontcountry sites tend to be used intensively, though per person expenditures will often be lower than in the mid and backcountry. Nevertheless, the large volume of potential visitors will generate sizable revenues thereby making higher investments in facilities possible, e.g. the Mount Layton Hotsprings Resort. Given the linkage between activities undertaken in this zone and the general tourism infrastructure (i.e. hotels, restaurants, airports), the indirect economic spin-off benefits from frontcountry tourism can be substantial.

Proximity to urban populations allows frontcountry facilities to be used by the local community for complementary recreational purposes thereby enabling a longer season, sometimes extending to a year-round operation.

Since much of the key land in this zone is privately owned, the integrity of the frontcountry can be maintained through zoning control (as well as by integrated resource management on the Crown land portion). Protection of critical viewscapes (e.g. with landscape logging, development siting, etc.) is important, especially around key resorts and along scenic

3. Midcountry Zone

Tourism in the midcountry zone is characterized by the provision of recreation experiences for 'intermediate' numbers of visitors in a quality, wildland environment. Babine Lake and much of the Lakes District fall within this zone. Motorized transport (car, helicopter, flightseeing aircraft, motor launches) and accommodation facilities (rustic lodges,) are found in this zone but to a much lesser extent and smaller scale than in the frontcountry. Economics often require that these facilities be multi-purpose;: for example, a guide or outfitter's camp may be used as a base for hunting in the spring or fall, and for wildlife viewing in the summer.

Heli-skiing, multiday heli-hiking, motor launch cruises, mountain biking and some guest ranches are examples of adventure travel activities associated with this zone. Given the greater distance and poorer access, midcountry tourism requires more expenditure of time and money than in the frontcountry.

Private lands are very limited or non-existent in this zone, with commercial tourism ventures generally operating on lease-hold Crown lands. The potential for conflict with other users is substantial in the midcountry for this is where industrial forestry and mining activity predominates.

The tourism land management objective in the midcountry zone involves the maintenance and enhancement (including reclamation) of scenic, recreation, and tourism values. Achievement of this objective may require some localized land-base preservation at key locations, e.g. in smaller acreage parks, river corridors and wildlife management areas. However generally, tourism land resource integrity in this zone can be retained through participation in integrative planning and management processes with other land users, e.g. forestry, mining.

4. Backcountry Zone

Provision of a high quality (often world class) wilderness experience in a pristine environment to a small well paying clientele characterizes backcountry zone tourism operations. In the northwest, locations such as Mt. Edziza and Tweedsmuir Park are examples of this backcountry zone. Multiday river rafting operations, canoe tripping, photo safaris, nature treks, multiday ski touring, mountaineering trips, sail charters, sea kayaking and wilderness horseback trips are all associated with this zone. The absence of motorized land vehicles and substantial lack of infrastructure are attributes of wilderness. For here the tourist experience emphasis is on landscapes which have not been altered by humanity.

Travel in this zone generally requires the assistance of a guide or outfitter thereby resulting in a labour intensive industry. (N.B. This zone is also used by local/resident recreationists who travel here with out the services of a guide or outfitter.) Facilities by contrast are limited to rustic cabins or tent camps. Backcountry tourism caters to an especially affluent, well-educated and urban clientele which is prepared to pay well and travel from all over the world to experience an exceptionally pristine and scenic natural environment.

The backcountry is ecologically fragile: it's landscape and wildlife populations can not endure large numbers of visitors without deteriorating in quality. Therefore, carrying capacity is a key concern. Since inappropriate siting of tourism facilities can lead to over-use, where possible, the preference is to locate on the rim rather than in the heartland of the sensitive backcountry zone. Clearly, careful planning in this zone is essential, both to ensure that tourism operations do not inadvertantly degrade the exceptional natural resource they market and also to ensure that pristine environmental values are not destroyed by the actions of other land users.

Given that such quality wilderness experiences are fast declining worldwide, and the fact that northwestern B.C. encompasses outstanding backcountry tourism features and opportunities, this zone is of major importance to the region's industry. In fact, the calibre of the region's wilderness environment is crucial to attract visitors to this comparatively remote part of the province.

In the southern portion of northwestern B.C., the backcountry zone focusses on the larger park and wilderness reserves such as South Moresby. In the north, the backcountry is the predominant zone but is only formally preserved in sites such as Spatsizi Park. As well, throughout the region, the backcountry is rapidly shrinking as resource extraction activities advance.

2.6 PRIORIZING THE NORTHWEST TOURISM RESOURCE

The various biophysical, human and composite factors together determine the pattern and quality of the tourism resource in northwestern B.C. The 1:600,000 mapping undertaken for this project identifies in overview fashion those portions of the region that are of high, medium and low significance to the tourism industry. (This priorization has been based on subjective assessment using study team familiarity with the region's tourism resource. The STRM methodology - developed in this study for the Smithers area at the more detailed 1:250,000 scale - will in future provides the means to undertake such priorization in a standardized objectified fashion.)

A summary version of this large scale mapping is included in this report as Map 2.

1. High Significance Tourism Areas

High significance tourism lands display exceptionally scenic, wildlife and other natural environment attributes. They function as destination areas and/or the focus of much of the region's actual tourism activities. These locations are of such calibre as to be internationally and nationally significant. Consequently, they are of critical marketing image importance and provide the means to attract distance travellers.

Given the remoteness of northwestern B.C. from major urban population centres of the south and hence its dependence upon distance travellers, maintaining the quality of these high significance lands is essential to the ongoing viability of the region's $96 million non-resident tourism industry. Therefore, these sites should receive priority attention from government and industry to ensure that they are carefully planned, managed and developed. For instance, the sites of high significance are where compilation of detailed inventory work is a priority and where the Ministry of Tourism should be prepared to become involved in integrated resource planning exercises.

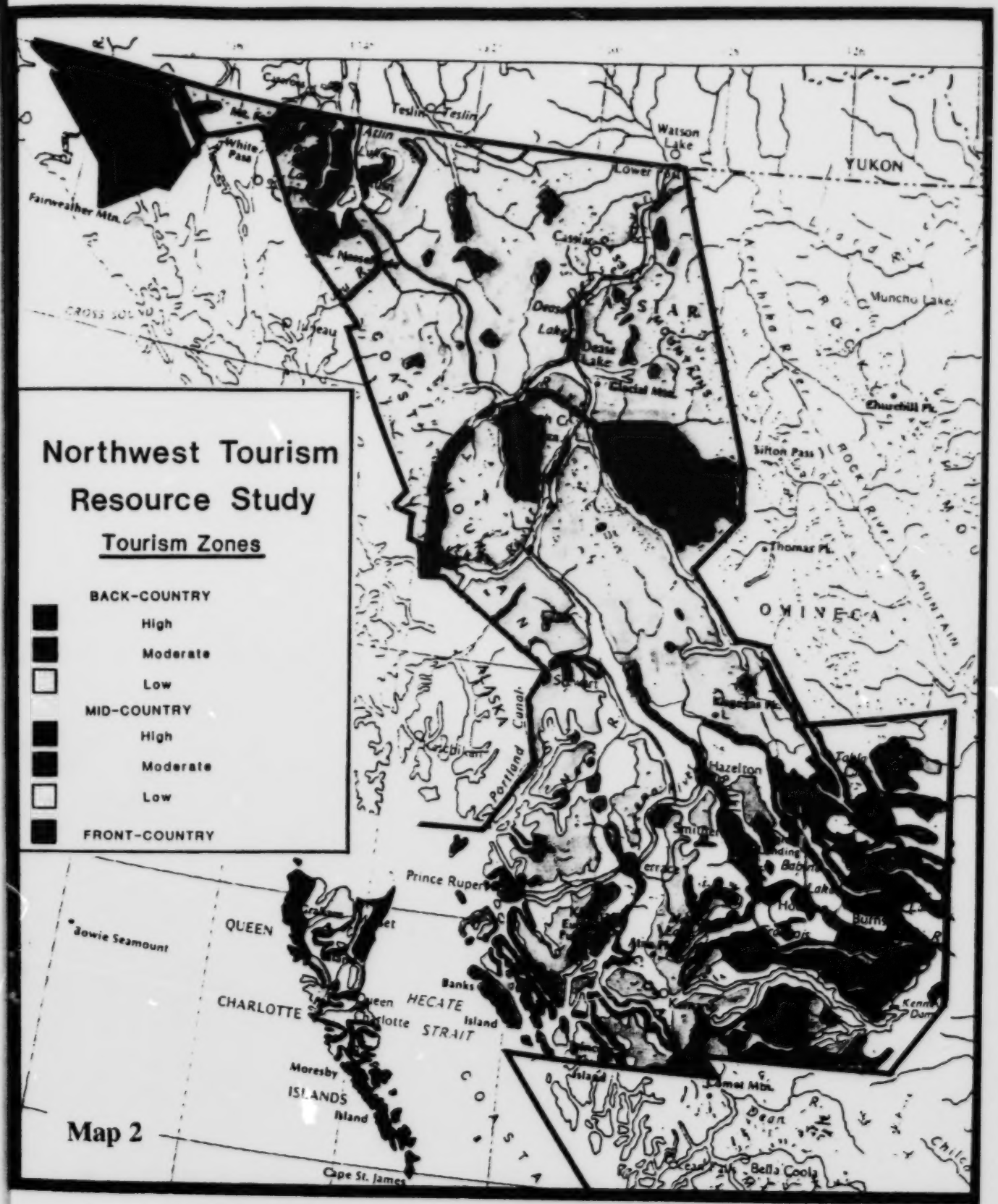
2. Moderate Significance Areas

Moderate significance tourism resource areas possess natural environment features that while often not distinctive enough by themselves to attract non-resident travellers, will draw B.C. residents (both regionally and provincially).

Moderate significance areas supplement the high significance sites by completing the region's tourism resource offering. Being of lesser consequence, they do not generally require the detail of inventory and integrated resource management planning as the high sites. Often a less intensive review - perhaps of the type associated with the interagency Referral Process - can be appropriate for moderate sites. (Occasionally a more intensive effort will be required. This should be determined on a case-by-case basis when development proposals for such lands are advanced).

3. Low Significance Areas

Low significance tourism resource sites lack the quality to attract tourists from beyond the local area. As a result, they are of lowest priority for government and industry and therefore require the least planning and management effort.


Northwest Tourism Resource Study
Tourism Zones
BACK-COUNTRY
High
Moderate
Low
MID-COUNTRY
High
Moderate
Low
FRONT-COUNTRY
YUKON
Watson Lake
Teslin
Atlin
White Pass
Fairweather Mtn.
Dease Lake
Muncho Lake
Churchill Pk.
Silton Pass
Thomas Pk.
OMINECA
Hazelton
Smithers
Prince Rupert
Bowie Seamount
QUEEN CHARLOTTE ISLANDS
HECATE STRAIT
Moresby Island
Cape St. James
Bella Coola
Map 2

3.0 REGIONAL TOURISM ECONOMIC PROFILE

3.1 GENERAL

Tourism statistics in British Columbia are grouped into resident and non-resident components. Detailed information on the travel and economic patterns of each of these constituencies is contained in Residents '89 and Visitors '89. Key information from these reports hasve been summarized below in this chapter.

As of yet, no combined resident/non-resident statistics have been published by the Ministry of Tourism. Due to differing data collection/analysis approaches of each consituency, combining figures is not straightforward.

What is apparent however, is the relative strength of northwestern B.C.'s tourism economy. In 1989, the region accounted for 5.4% of the overall B.C. resident tourist flow and 4% of the non-resident flow. Given that northwestern B.C. accounts for 3.4% of the provincial population base, the industry here is performing ahead of the B.C. average on a per capita basis.

3.2 RESIDENT TRAVEL PATTERNS

In 1989, the North by Northwest Tourist Region experienced 1,230,000 person trips by British Columbians, 5.4% of the overall B.C. resident tourist flow. Of this, 33% (405,900 person-trips) were undertaken by NxNW residents and 67% (824,100) by British Columbians coming to the region from elsewhere in the province.

In terms of the actual number of visitors (as opposed to person-trips) the origin of residents who travelled to and in the region was as follows:

Table 3.1: Origin of Individual Resident Travellers to the NxNW Region

North by Northwest	45%
Southwest B.C.	42%
Cariboo	7%
Vancouver Island	5%
Peace River	5%
Okanagan	4%
Thompson	3%
Kootenays	1%
B.C. Rockies	0%

* numbers do not total due to rounding

Source: Residents '89

These figures indicate that almost half of resident travel is the result of in-region tourism by locals (i.e.regional resident travellers). The other major component is derived from Lower Mainland tourists a large part of which is likely due to business travel from Vancouver. Travel from the other parts of the province is markedly lower, with particularly little visitation originating from southeastern B.C.

Trip purpose for B.C. residents is as follows:

Table 3.2: Trip Purpose for B.C. Residents

Travel Product Sector	%
Visit Friends and Relatives:	37
Personal:	10
Business	18
City	7
Outdoors/adventure*	18
Touring*	7
Resort*	2
Other	1

Source: Residents '89

Therefore 27% of resident travel in B.C. is natural resource based. While this is lower than for non-residents (59%), it is significant, that of all the travel sectors which can be truly considered tourism/leisure oriented, outdoors/adventure accounts for the largest portion of B.C. residents activity. This will be of advantage to the region given its exceptional tourism resources. However, other regions of the province often have similar attributes and therefore will compete with NxNW for this resident market. In this respect, southern regions - although less wild - are more accessible to the large population concentrations of the province and will intercept much of the outdoor/adventure resident travellers.

85% of British Columbia's resident travel is rubber tire traffic (automobile 75%; RV 5%; bus 5%). Given an average B.C. resident trip length of 3.73 days, this means that northwestern B.C. is just too remote to visit easily by vehicle.

3.3. NON-RESIDENT TRAVEL PATTERNS

.1 Origin

In 1989, 452,000 visitors from outside of B.C spent at least one night in the North by Northwest Region and generated revenues of $96 million. Over half of non-British Columbian visitor parties to the region came from the United States (53%), while 29% are from the rest of Canada and 18% are from overseas. Table 3.3 provides a more detailed breakdown of visitor origins.

Table 3.3: Origin of Non-Resident Visitors

	# of Visitors NxNW	# of Parties NxNW	%Parties NxNW	% Parties B.C .
Alberta	68,691	27,810	15	23
Ontario	19,801	11,124	6	13
Other Canada	26,698	14,832	8	12
Sub-total Can.	**115,190**	**53,766**	**29**	**48**
Washington	25,696	12,978	7	14
Oregon	20,394	9,270	5	4
California	48,946	22,248	12	9
Other West US	74,753	29,664	16	8
Other U.S.	63,870	24,102	13	7
Sub-total US	**233,659**	**98,262**	**53**	**42**
Overseas	**105,122**	**33,372**	**18**	**10**
Total	452,376*	185,400	100*	100

* figures do not add due to rounding

Source: Visitors '89

Compared to the provincial averages, this region attracts substantially more numbers of Americans (11% more than B.C. average), and international travellers (+8%) but considerably fewer Canadians from other provinces (19% less). The higher level of American interest in the NxNW reflects the fact that many are travelling through enroute to Alaska. (37% of visitors state that they are just passing through the region.) The draw of Alaska is such that the majority of American visitors come from more distant markets, (e.g. the number of visitors from California, "other western U.S. states" and from "other U.S. states" each exceeds the number of travellers from the nearer Washington market).

The heightened interest in the region from overseas markets is due to the region's wilderness/natural environment appeal (especially with Germans). However, its relative remoteness diminishes travel by Canadians from other provinces.

.2 Mode of Travel

Non-resident travel in the North by Northwest is very heavily reliant upon rubber-tire transportation: 87% of parties visited the region using automobile and recreational vehicles. This is considerably higher than the provincial non-resident average of 75%. The emphasis on this mode of travel is the result both of the Alaska-bound travellers and those who incorporate a trip to the North by Northwest with a B.C. Inside Passage ferry trip via Prince Rupert. (19% of North by Northwest visitors cite having travelled by ferry). The fact that 55% of North by Northwest visitors originate in the neighbouring western U.S. states and Alberta also contributes to the popularity of rubber-tire travel. Rubber-tire travel in the North by Northwest features a significantly higher average emphasis on RV's (30%).These vehicles are associated with longer road tours.

Only 9% of non-resident visitors travelled into the region by air; however this exceeds the provincial average of 4%.

Table 3.4: Mode of Transportation Within B.C.

Mode	NxNW (%)	All B.C. (%)
Own car	40	44
Rental car	17	21
Own RV	30	10
Bus	4	11
Air	9	4
Train	4	2
Cruise	3	2
Ferry	19	15
Other	11	19

(Note: Total exceeds 100% since some respondents cite more than one mode of transport)

Source: Visitors '89

.3 Trip Purpose

This dependence on highway travel is reflected in the fact that the leading trip purpose for non-

resident visitors is touring (43%).This is far higher than for the resident touring component of 7% (B.C. average). The next most important trip purpose cited by non-British Columbian travellers is outdoors/wilderness/adventure trips (14%). Both touring and adventure/outdoor travel are considered to have direct natural resource/land base requirements. Therefore, when resort vacations (2%) are also considered, 59% of the North by Northwest region's non-resident travel industry is seen have a direct reliance upon the tourism natural resource base.

.4 Accommodation Patterns

Non-resident accommodation patterns in the region reflect a higher than average dependence on outdoors/land-based recreation: 37% stayed in campgrounds (B.C. average 16%). By contrast hotel usage in the region was much less than the provincial average (4% vs 16%). This reflects the relative lack of hotel facilities in the region, which in turn is determined both by the shorter northern tourism season (and lessened profitability for larger investment facilities), as well as the emphasis on touring and outdoor recreation oriented trips. When visitors used roofed accommodation, the focus was on lower cost motels rather than hotels (16% vs 4%).

Table 3.5: Accommodation (Party Nights)

	Northwest	Province
Hotel	4	17
Motel	16	18
Resort	0	3
Bed & Breakfast	1	1
Trailer/Tent/Camper	37	16
Cruise Ship	3	1
Friends & Relatives	30	37
Other	9	6

.5 Expenditure Patterns

According to Visitors '89, non-resident travellers spent $49.54 per person day. This is 10% less than the provincial average per diem expenditure of $54.90. As Table 3.6 shows, these visitors to the northwest spent substantially less on accommodation, restaurants, shopping/ souvenirs and entertainment than the provincial average. (Share of expenditures for these combined items: B.C. 67%; Northwest: 41)%. Once more, this reflects the comparative lack of facilities associated with the regional tourism sector which is the result of northwestern B.C.'s comparative isolation from major populations/tourism flows, and its shorter season.

By contrast, non-British Columbian visitors to the region spent more on automobile transportation and package tours than the provincial average. While this reflects the touring focus of much of the region's visitors, it is also the result of the fact that the northwest's large

geographical size and its remoteness requires that much longer trips be made to access and tour the region than for more compact/accessible southern sites. As well, the higher cost of gasoline in the north is reflected in these higher transportation expenditures.

Similarly, higher northern food costs are also indicated by the proportionately larger share that visitors to the region pay for groceries. Higher groceries costs also reflect the fact that a larger proportion of visitors travelling the region are campers; these people prefer to purchase groceries for cooking themselves, rather than to use restaurants.

Table 3.6: Expenditures/Person-Day

	Region ($)	%	B.C. ($)	%
Accommodation	7.39	15	15.33	28
Auto Transport	10.32	21	6.25	11
Other Transport	3.29	7	2.67	5
Package Tour	10.34	21	4.30	8
Restaurants	7.73	16	11.89	22
Groceries/Beverages	4.26	9	3.35	6
Recreation	.72	1	2.26	4
Entertainment	.53	1	1.58	3
Shopping/Souvenirs	4.50	9	7.79	14
Other	2.08	4	1.99	4
Total	49.54	100*	54.90	100*

* figures do not add due to rounding

Source: Visitors '89

In summary, the expenditure figures reveal that North x Northwest non-resident tourists spend 10% less per day than the provincial average and therefore generate fewer spin-off benefits to the regional economy. Furthermore, the money spent by them is largely channeled into higher commodity prices (e.g. for fuel and food) rather than to support in-region tourist jobs and facilities.

Since the remoteness and shorter season of the region is a given that can't be changed, some options for improving on such present expenditures pattern include:

- creating further activities to entice touring non-resident visitors to linger longer in-region. The most viable approach may be to seek lower investment, higher employment day-length adventure products such as trail riding, river rafting, guided hiking etc. that are targeted at the touring visitors. (In so doing, site carrying capacity - both biophysical and perceptual - as well as resident user attitudes must be considered.)

- further developing the multi-day adventure tourism product to entice more high paying visitors into the region from distance markets. Here the approach should be to diversify existing operations (e.g. adding wildlife viewing to guide outfitting) and to increase product quality to enable higher prices to be charged. This will increase employment and enable facilities upgrading.

Both these opportunities emphasize resource-based tourism and underscore the need to better manage the region's land-base to enable higher value tourism.

.6 Party Size and Composition

Fifty-three % of non-resident parties travelling the northwest in 1989 were comprised of two adults. This is 6% higher than the provincial average. The number of single person parties (21%) in the northwest was about the same as the provincial average despite the smaller proportion that travel to the northwest for business purposes. The number of parties with childern was slightly lower than the B.C. average (13% vs 15%).

Table 3.7: Non-Resident Visitor Party Composition

	Northwest(%)	B.C.(%)
1 Adult	21	22
2 Adults	53	47
3 Adults	5	6
4 Adults +	8	10
Adults with children	13	15
Total	100	100

Source: Visitors '89

The average household income of non-resident visitors travelling the northwest was 5% less than the provincial average (NxNW: $42,661; B.C.: $44,967). This probably reflects the heavy focus on the touring traveller which is associated with a lower income bracket. By contrast, the distance adventure traveller is typically associated with a higher income level.

4.0 RESOURCE BASED TOURISM PRODUCTS

4.1 NATURAL RESOURCE-BASED TOURISM

As the analysis of tourism patterns in chapter 3.0 reveals, tourism in northwestern British Columbia is especially resource dependent, particularly for the non-resident component (59%).

Table 4.1: NATURAL RESOURCE BASED NON-RESIDENT TOURISM IN NORTHWEST B.C.

Product Sector	Natural Tourism Sector	Main Trip Purpose % of Parties	
		Northwest	All B.C.
City	no	2	3
Business	no	6	17
- convention/conference			
- general business			
Personal	no	32	33
- visit friends & relatives			
- personal matters			
Resort	yes	2	8
Outdoors/Adventure	yes	14	8
- general outdoors			
- adventure			
Touring	yes	43	26
- automobile/bus			
- cruise			
Other	no	1	5
- special events/exhibitions			
- theme parks/attractions			
Total Natural Resource Based		**59**	**42**

Source: Visitors '89

As discussed earlier, this regional natural resource reliance higher than the B.C. average (42%) is the result of both the touring and outdoors/adventure products playing a far larger role in the northwest than for the province as a whole. This pattern reflects the physical

attributes of the region, i.e. its scenic splendor, environmental quality and its large size. By contrast, the northwest non-resident based tourism industry is less oriented to the business travel, resort and other attractions sectors. This is the result of the region's relative geographical remoteness from major urban centres, its smaller population base, its limited facilities infrastructure and its cooler climate.

The personal travel component in the northwest approximates the provincial average indicating that physical factors have minimal effect on this form of travel.

4.2 TOURISM SECTOR DESCRIPTIONS

Natural resource based tourism in northwestern B.C. involves 3 major product sectors:

- touring (predominantly road based, but also with a cruise component)
- outdoors/adventure
- resort

These are discussed below.

.1 Touring

For the purposes of this study the touring sector incorporates two segments: land based and marine based touring. The latter segment - usually referred to as the 'cruise' product involves the use of large passenger ships and car ferries. Despite the very large numbers of visitors who travel the coast each year by cruise ship, to date there is no opportunity for passengers to start or end their trip in region. Therefore these people have little economic contact with northwest B.C. but merely transit it (in much the same fashion as air passengers enroute to Alaska overfly it). The exception are those passengers who disembark from cruise ships for a short excursion in Prince Rupert.

As for ferries, since travellers on the B.C. Ferries generally drive vehicles, it is appropriate to group them in with the automobile touring component.

a) Land Based Touring:

Situated as it is on the Stewart Cassiar highway route to Alaska and the Inside Passage, the northwestern B.C. travel industry has been heavily reliant upon rubber-tire traffic, including RV's. The Northwest B.C. land touring product has been developed and marketed since the construction of the highway in the early 1970's with the result that it has now reached maturity.

Elsewhere in B.C., rising fuel costs, shorter holidays and the appeal of destination resorts has resulted in a diminishing importance of the land touring product. For B.C. as a whole, the use

of automobiles for travel by non-residents has declined from 60% of visitors in 1979 to 44% in 1989.[1] In that same time period, the RV component has declined from 15% - 10%.

However, given that the Northwestern B.C. touring product is exceptional - due to its location enroute to Alaska or the Inside Passage, and also on account of its scenic drama - it seems likely that the rubber tire market will hold up better here than elsewhere. Therefore, while major growth in this product is unlikely - particularly amongst the majority U.S. markets - the present level will be maintained in the northwest.

As Table 4-2 shows, visitors involved in touring through the northwest spend twice as long on their trips in B.C. than do their counterparts travelling other parts of the province: (NW: 22.5 nights; B.C.: 12.9 nights) This is because so many are enroute to Alaska. However, RV travellers in the northwest spend the most nights per campground in region, far more than is the case for northeastern B.C. where visitors also travel to Alaska.

Table 4-2: Length of Stay by Region

Region	Nights in B.C.	Nights per Campground	Nights Away on Trip
Northwest B.C.	22.5	5.9	51.8
Vancouver Is.	10.9	3.3	15.4
Southwest B.C.	12.0	3.9	27.3
Thompson/ Okanagan	12.9	4.8	25.8
Kootenay	9.5	4.1	16.1
Cariboo	13.9	2.2	29.5
Northeast	11.8	1.3	36.5
B.C.	12.9	4.0	25.6

Source: B.C. Recreational Vehicle Campground/Resort Study p. 4-6

A key reason why the touring product is proportionately more important to the northwest than elsewhere in B.C. is that touring visitors spend longer at campsites than they do when travelling elsewhere in the province. This results in greater direct and indirect/induced economic benfits. However, as Table 4-3 shows, the daily expenditure levels of RV touring travellers is only about 1/2 that of the overall tourism industry average. This is because this component of touring travellers make little use of higher value accommodation, restaurant and other services. Therefore, despite the large numbers of visitors who tour the northwest by RV, their economic impact is less per capita than other types of travlelers.

[1] *Tourism B.C. Visitors '79 & '89*

Table 4-3: Visitor Daily Expenditure Levels Per Party ($)

Expenditures	RV Tourists (*)	All Tourists (**)
Accommodation	11.83	36.53
Auto Transportation	24.16	15.22
Other Transportation	1.49	6.53
Restaurants	5.63	28.64
Groceries/Beverages	16.17	8.17
Recreation/Entertainment	4.21	9.29
Shopping/Souvenirs	9.18	19.01
Package Tours/Misc	2.87	10.49
Total	75.54	133.88

Sources: (*) B.C. Recreational Vehicle Campground/Resort Study, p.4-11
(**) Visitors '89, p.37.

One area where growth in rubber tire touring is possible involves the fast expanding overseas market. Overseas travel to Canada increased by 63% from 1980-89; in the same time the increase of U.S. travel was only 11%.[2] In B.C., only 5% of the RV use is currently associated with such overseas travellers, which would suggest that there may be room for significant growth. Increased packaging of RV equipped fly-drive trips would address this opportunity. It could also increase touring sector revenues more than proportionately, since as Table 4-4 shows, overseas RV drivers are associated with 25% higher daily expenditures on average than their North American counterparts.

Table 4-4: RV Daily Expenditure by Origin

B.C.	$65.62
Alberta	79.05
Other Canada	95.69
Washington	89.27
Oregon	78.69
California	70.71
Other U.S.	87.80
Overseas	104.01
Average	**$75.54**

Source: B.C. Recreational Vehicle Campground/Resort Study, p. 4-11

[2] *Tourism Canada. Tourism on the Threshold, p.13*

b) Marine Touring:

Marine touring can be subdivided into three main products:

- large cruise ships
- small cruise ships
- cruise-ferry

In addition there are other marine related activities, e.g. small craft cruising (sail/power), sea kayaking, fishing charters. However, for the purposes of this study these have been grouped within the outdoor/adventure sector.

Regardless of the size of vessel involved, all marine touring products have a strong natural resource component. This is because a key part of the experience relates to the scenic quality of the natural environment. This is especially true for north coast trips where the opportunity to see intact wild coastlines and marine wildlife is emphasized. Therefore maintenance of visual and nature viewing values is important.

(i) Large Cruise Ships: While by definition the large cruise ship industry involves those tourism vessels capable of carrying more than 250 passengers, the typical passenger complement is in excess of 1,000. In 1990, the large ship cruise industry carried approximately 270,000[3] passengers on the Inside Passage run to Alaska. However as mentioned, despite such a large tourist flow, this sector contributes minimally to the economy of northwestern B.C. The industry is calculated to generate direct economic benefits to B.C. of between $66.4 to $85.3 million. Of this expenditures by cruise passengers are estimated to range from $30.3 to $43.6 million.[4] However almost all of these benefits accrue to the Vancouver region.

Modifying this present pattern of operation to provide more regional economic benefits represents a key possibility for tourism industry growth in the northwest, especially since this growth in the Inside Passage/Alaska large ship cruise trade is forecast to grow at 6%/ year over the next 5 years.[5] To do this:

- dock facilities or anchorages capable of accepting large ships would be required at locations such as Skidegate and Bella Bella;

- shore-based attractions capable of handling large numbers of tourists and of significant interest to cause the large cruise ships to stop in region (in addition to Prince Rupert) would be required.

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[3] *Data Decisions Group, Alaska Visitors Arrivals, Summer 1989.*
[4] *Cruise Ship Industry - Executive Summary, p. 4.*
[5] " " " " " , *p. 5.*

However, even with such infrastructure, this option is not immediately achievable. This is because the Inside Passage cruise ship product is predominantly oriented to the American market and focuses on Alaska as its destination. Therefore the cruise companies have an interest in running schedules which maximize time in Alaskan waters. As well, the lack of tourism services at enroute B.C. communities is a disincentive for the big ships to stop. Furthermore, only locations easily accessible to the main Inside Passage route (e.g. Bella Bella) or perhaps in the Queen Charlottes would appeal, since side trips up the fiords to places such as Bella Coola and Kitimat would take too long and diminish the time available to be spent by the ships in Alaska.

(ii) Small Ship Cruises: The small ship cruise product relates to vessels designed to carry from 50 - 250 passengers. Due to their smaller size, such ships would focus on shorter distance, regional cruising unlike the larger ships. They could use smaller docks, take advantage of smaller on-shore tourism attractions, and would be ideally suited to the fiord environment of the North Coast. This would mean they could bring tourism benefits to communities such as Bella Coola, Kitimat, Stewart and Masset. Given their smaller passenger complement, they could operate in this area out of Prince Rupert, Skidegate or Port Hardy making use of regional airports to transport passengers to and from cruises.

Despite an internationally significant coastline, such a small ship cruise industry has yet to be established on the north coast. This is likely to change in the near future. A report entitled Small Ship Cruising in British Columbia indicates the combined potential market in California, Washington and B.C. for B.C. small ship cruising product could be from 150,000 to 345,000 people over the next 5 years.[6]

In addition to the substantial direct expenditures revenues which would accrue with such a small ship cruise industry, this activity would enable the initial development of shore based activities which when well-enough established might appeal to the large cruise ships as stops.

(iii) Cruise Ferry: A plan to initiate cruise-ferry service on the north coast by 1993 is proposed by Swedish-based Gottlund Shipping. Modelled after operations on the Baltic Sea, this vessel will carry vehicles, be able to use smaller docks, and therefore stop at smaller communities. As well, it will incorporate many of the services and decor found on cruise ships (e.g. fine dining rooms, theatres, etc.). This cruise-ferry service is designed to link with on-shore tourism services and small adventure tourism operations. It will attract tourists who wish to drive various highway routes along the coast (e.g. Bella Coola Highway; Queen Charlottes; Highway 16). Also it will provide an upscale ferry service for coastal residents.

Statistics generated by Gottlund suggest that economic tourism benefits will be substantial. Communities in the North x Northwest Region will particularly gain from this service since it will provide access and link marine travellers to north coast communities and tourist services in a fashion presently excluded by the large cruise ships.

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[6] *Tourism B.C. Small Ship Cruising in B.C. p 2-22; 7-1*

.2 Outdoor/Adventure Tourism

Outdoor/adventure travel is a rapidly growing component of the B.C. tourism economy. According to the Wilderness Tourism Council (WTC), in 1986 this sector generated $135 million in direct revenues. The Council estimates that this value now has grown to approximately $200 million. WTC data reveals that B.C. makes more from outdoor/adventure tourism than any other province or state in North America.[7]

The economic importance of the outdoor/adventure sector is greater than these figures would suggest because its products represent some of the key 'things to see and do'. Therefore adventure tourism products attract people to a location, encourage them to stay longer and therefore to spend ancillary money on accommodation, restaurants, souvenirs, etc. Particularly for a region like the northwest, the outdoors/adventure tourism sector is an anchor for the overall industry.

The fact that the outdoor/adventure tourism product already represents 14% of the North by Northwest's non-resident visitor activity (6% above the B.C. average) demonstrates the industry's awareness of this potential. Likely, the potential for growth in this sector is substantial. However to achieve this will entail a stronger understanding of the region's tourism resource potentials in the mid and backcountry. Hence the appropriateness at this time of this study and the fact that it has been sponsored by adventure tourism operators.

Although definitions vary, the outdoor/adventure sector is usually categorized into 3 segments: hunting, fishing and adventure. For the purposes of this study, however the classification is based on operation type, namely:

- guide outfitter
- fishing lodge/resorts
- adventure activities

since this is the form in which data has been compiled by existing Ministry of Tourism studies. This classification is not ideal given that some crossover of product occurs. For example, guide outfitters not only offer hunting experiences, but wildlife viewing, trail riding and sports fishing as well.

To date the focus in northwestern B.C. has been on guided hunting, fresh water and salt fishing. However, increasingly adventure product is being developed to offer trail riding, backpacking, rafting, snowmobiling, wildlife viewing and more. Summary information on the leading outdoor/adventure tourism sectors are presented below to give insight into the economic contribution they make to the region and their natural resource dependency.

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[7] *Wilderness Tourism Council: Report to Cabinet, March, 1988.*

a) Guide-Outfitting:

Profile: In 1988, 65 guide outfitting businesses - or 25% - of the provincial total operated in the northwestern region of B.C. generating direct revenues of $5.6 million.[8] On average, therefore, a northwest guide outfitter business earned direct revenues of $86,000. This was distributed;: 39% to wages and salaries, 45% on purchases (goods & services), and 16% to capital return (interest, depreciation, taxes, profits). Therefore the direct income (wages and capital) equaled 55% of revenues. This is lower than the B.C. industry average (i.e. direct income is 62% of revenues) likely due to the relative expense of supplies in the north and the higher transportation bills.[9]

The industry created 130 person years of direct employment in 1988. The wages and salaries paid to this workforce were $2.2 million.

Table 4.5: Profile of the Northwest Guide Outfitting Industry (1988)

	Northwest	B.C.
Number of Active Operations:	65	255
Revenues ($ millions):		
- Hunting	4.7	19.6
- Non-hunting	.9	2.5
- Total	5.6	22.1
Revenue Distribution ($ million):		
- Wages & Salaries	2.2	8.4
- Purchases, Goods, Services	2.5	8.4
- Capital Return (for interest payments, depreciation, taxes, profit)	.9	22.1
Average Revenues/Operation ($000)	86,000	87,000
Direct Employment (person years):	130	475
Client Days:		
- Hunting	10,500	48,900
- Non-hunting	8,000	23,300
- Total	18,500	72,200
Average Client Days/Operation	**285**	**283**

Source: Guide Outfitters of B.C.: Opportunity Analysis, p. 3-7

[8] *As defined by Ministry of Environment boundaries*

[9] *Guide-Outfitters Study p 3-11*

Regional Economic Impacts: As Table 4.6 shows, when direct, indirect and induced values are calculated, the total economic impact of the regional guide outfitting industry was $4.8 million in income, $3.3 million in wages and salaries. As well it, created 170 person years of employment.

Table 4.6: Total Economic Impact of the Northwest Guide Outfitting Industry

Gross Revenues ($ million):	5.6	
	Direct Impacts	**Total**
Impacts(*)		
Income ($million)	3.1	4.8
Wages/Salaries ($million)	2.2	3.3
Employment	130	170

(*) multipliers used: income - 1.89; wages/salaries - 1.95; employment - 1.60

Source: Guide Outfitters of B.C.: Opportunity Analysis, p. 7-5

Products: The northwest guide-outfitting industry focuses on hunting but also provides freshwater sport fishing, wildlife viewing and other related activities. Of these products, hunting currently generates more revenues per client day than non-hunting. In 1988, the regional industry served 2240 clients for 18,500 client days of business: 57% of these client days were devoted to hunting and 43% to non-hunting activities. Still, hunting was the more lucrative activity since it generated 84% of direct revenues.

The value of differing guide outfitter supplied products is shown below:

Table 4.7: Value of Guide Outfitter Products

	Average Cost/client-day ($)	Average Package Length (days)
Moose	300	9
Black Bear	289	8
Grizzly	543	11
Goat	397	9
Sheep	738	13
Deer	289	7
Caribou	425	9
Cats	362	8
Wolf	272	10
Fishing	172	6
Trail Riding	144	5
Wildlife Viewing	167	7

Source: Guide Outfitters of B.C.: Opportunity Analysis

Nevertheless, hunting and non-hunting products complement each other, hunting activity is primarily focused in the fall (from late August until late November) although many operators also providing spring bear hunts. On the other hand, wildlife viewing, trail riding and sports fishing are summer month activities. Increasingly guide outfitters are providing both hunting and non-hunting activities so as to lengthen their season, improve on economic return of investment, lengthen and stabilize employment and to continue to grow.

Markets: The northwest attracts visitors from the following markets for its hunting and non-hunting products:

Table 4.8: Northwest Guide Outfitting Industry Markets

	Hunting/Non-hunting Markets (%)	Hunting Only Markets(%)
British Columbia	9	2
Alberta	7	1
Rest ofCanada	1	1
Total Canada	**17**	**4**
Pacific Northwest	18	22
California	11	9
Mid States	17	25
East U.S.	20	25
Total U.S.	**66**	**81**
Germany	6	7
Rest of Europe	6	7
Australia/New Zealand	3	0
Other	2	1
Total Overseas	**17**	**15**

Source: Guide Outfitters of B.C.:Opportunity Analysis, p. 4-1

The importance of the U.S. market for the hunting product (81%) is notable. By contrast, Western Canadians show a strong interest in the non-hunting activities. As the northwest region's wildlife viewing, trail riding and sports fishing becomes better known, it will attract larger numbers from more distant markets, particularly overseas.

Trends: Further diversification of the guide outfitter product seems a certainty. In the survey undertaken for the Guide Outfitters Opportunity Study, 81% stated an interest in developing non-hunting product. This is motivated both out a desire to diversify and lengthen seasons and also due to the fact that hunting expansion opportunities are limited by quota allocations.

A survey done as part of the Guide Outfitters Opportunities Study and administered to B.C. residents indicates the following preferences for non-hunting product:

- fishing 57%
- backpacking 40%
- trail riding 17%
- wildlife viewing 13%

In order to diversify though, the industry will have to learn new approaches to reach these markets.

Resource Issues: Discussion of expansion possibilities are meaningless if the quality of the land base upon which guide outfitters in northwest B.C. depend is not maintained. This is because the guide outfitter industry is especially natural resource reliant. In the Guide Outfitter Study survey, northern operators identified the following issues the leading concerns:

- logging
- development of access roads
- wolf predation
- mining exploration & development
- non-licenced packers
- inadequate wildlife management

Each of these issues must be addressed if the existing industry is to be maintained and flourish.

b) Fishing Lodges/Resorts:

Profile: The fishing lodge/resort industry involves those businesses operating out of a permanent facility (whether land-based or floating) whose primary product is sports fishing.[10] In 1988 there were 44 such sports fishing operations in the northwest, 17% of the overall B.C. industry. They generated gross direct revenues of $7.2 million, providing 37,400 client-nights of business and creating 190 person years of direct employment.[11]

Table 4.9: Profile of Northwest Sports Fishing Industry (Salt & Fresh)

Number of Operations:	44
Revenues ($ millions):	7.2
Average Revenue/Operation	$164,000
Direct Employment (person/years)	190
# of Clients	14,608
Average Client Nights/Operation	850
# of Client Nights	37,400

Source: Fishing Lodges and Resorts in B.C., Exhibit 3-13

[10] *There are two possible sources for information on fishing product. Both salt and freshwater fishing products are covered in: Fishing Lodges and Resorts in B.C. (1988). The Marine Tourism Opportunity Study provided updated numbers for the saltwater component (1991). In order to provide more detailed and consistent numbers for both sectors the choice was made to use the earlier study.*

[11] *Ministry of Tourism. Fishing Lodges and Resorts in B.C. p 3-29.*

The regional economic impact (direct+indirect+induced) of the sports fishing industry to Northwestern B.C. is shown in Table 4.11.

Table 4.10: Regional Economic Impact of Sports Fishing

	($ million)
Gross Revenues:	7.2
Direct Value Added:	4.3
Total Value Added:	7.2
Wage Income	4.6
Employment (person/yrs)	210

Source: Fishing Lodges and Resorts in B.C. p. 8-9

Products: The fish lodge/camps industry is divided into the salt and freshwater components. In the northwest, there are 8 saltwater fishing operations and 36 freshwater camps. Among saltwater operations, chinook and coho are the primary sports fish. Some of the finest salmon fishing occurs at Langara Island on the northwest tip of the Queen Charlottes; other key site include Douglas Channel and around Prince Rupert. From a freshwater perspective, the northwest region is particularly famous for its wild races of trophy sized steelhead especially in the rivers of the Skeena system: the Kitsumkalum, Babine, Sustut, Kispiox, Bulkley and Morice. River salmon fishing is important around Terrace. Rainbow trout and Dolly Varden are the leading freshwater fish throughout interior portions of the region.

The two components have different revenue profiles as the following distribution derived from the 1988 Sports Fishery Operators Survey shows:

Table 4.11: Gross Revenues of B.C. Sports Fishing Operations

	Salt(%)	Fresh(%)
Less than $25,000	6	32
$26 - 50,000	0	24
$51 - 100,000	7	21
$101 - 500,000	35	21
$501 - $1 million	26	1
$1 million +	26	1

Source: Fishing Lodges and Resorts in B.C., exhibit 3-11

Clearly, the saltwater operations, while fewer in number, generate substantially larger revenues. In 1987, the average revenue/visitor-night was $310.[12] As a result, the saltwater operations are associated with higher investment levels, and generally provide more upscale facilities than their freshwater counterparts. Saltwater operations have a shorter season (May to September) than freshwater ones (May to October).

Because they generate much smaller revenues (B.C. average is $39/visitor-night), freshwater businesses have more difficulty generating the revenues necessary to upgrade facilities. The exception are steelhead operations which due to the international reputation of the fish and the calibre of the northwest runs are able to charge higher per diem rates (e.g. in 1987, $324/visitor night)[13]

Markets: The origin of the sports fishing clientel is primarily western Canadian and American. Saltwater operations attract more Americans than their freshwater counterparts. For both types of operation the overseas clientele is minor.

Table 4.12: Origin of B.C. Sports Fish Operation Clientele

	Salt (%)	Fresh (%)	Total (%)
British Columbia	23	40	36
Alberta	11	8	9
Other Canada	7	2	4
Total Canada	**41**	**50**	**49**
Pacific Northwest	32	23	26
California	19	13	15
Mid U.S.	3	3	3
East U.S.	2	2	2
Total U.S.	56	41	46
Europe	2	6	5
Pacific Rim	1	0	0
Total Overseas	**3**	**6**	**5**

Source: Fishing Lodges and Resorts in B.C., p. 4-2

[12] *Ministry of Tourism, Fishing Lodges and Resorts, p. 3-29*
[13] *Ethos Consuluing. Babine Wild River Resources Values Analysis. p.19*

Trends: The saltwater fishery is attracting increasing market interest. In the past few years new operations have developed in region, particularly on the Queen Charlotte Islands. One trend which is developing for freshwater steelhead fishing (and which might extend in future to other sports fisheries), is "catch and release" operations. For example, this approach already governs the trophy steelhead fisheries on the Babine. Here, prices have continued to rise, since this policy has enhanced the chance to catch a trophy fish.

Resource Issues: Sports fishing is very dependent upon a quality natural resource base. As Table 4.14 shows, in addition to fishing quality, scenic beauty and remoteness are features which clients rate highly when selecting a fishing lodge/resort.

Table 4.13: Top Ten Factors Affecting User Selection of Fishing Lodge/Resort

	Saltwater		Freshwater	
	(%)	(Rank)	(%)	(Rank)
Natural/Scenic Beauty	77	1	86	1
Remoteness	57	2	46	3
Service	54	3	56	2
# of Fish Caught	50	4	23	7
Size of Fish Caught	50	5	18	8
Cost of Lodge	43	6	25	6
Travel Time	36	7	26	5
First Class Accommodation	33	8	7	9
Rustic Accommodation	25	9	36	4
Non-fishing Activities	0	10	4	10

Source: Fishing Lodges & Resorts, p 4-16

Therefore the need for fish stocks, viewscapes and roads to be carefully managed is crucial for high quality sports fishing areas. Other key issues relate to competition with other users, and the allocation of the resource amongst commercial, native and local recreation fisheries

c) Adventure Tourism:

Profile: In a report on the subject undertaken for the Outdoor Recreation Council of B.C. (ORC) in 1988, adventure travel was defined as:

"A leisure activity that takes place in an unusual, exotic, remote or wilderness destination and tends to be associated with high levels of activity by the participants, most of it outdoors. Adventure travellers expect to experience varying degrees of risk, excitement, and tranquility

and to be personally tested or stretched in some way. They are explorers of both an outer world - especially the unspoiled exotic parts of our planet, and an inner world of personal challenge, self-perception and self mastery."[14]

Adventure travel focuses on an affluent, urban, well-educated clientele. These people are willing to travel world-wide to experience outdoor recreational experiences in exceptional settings. B.C. is recognized to be one of these destinations and within the borders of the province northwestern B.C. has the quality of resources to participate strongly in this tourism segment.

According to the ORC study, the 396 operators that comprised the B.C. adventure tourism industry in 1986 generated $56 million in direct revenues and created 1610 person years of direct employment. From a total economic impact (direct, indirect, induced), that year the provincial adventure tourism industry contributed a Gross Domestic Product of $64.7 million, 43.4 million in wages and accounted for 2,670 person years of employment. [15]

Products: Adventure tourism incorporates a range of products including:

bike touring	trail riding(*)	backpacking(*)
mountaineering(*)	heli-hiking(*)	rafting(*)
canoeing(*)	heli-skiing	snowcat skiing
snowmobiling(*)	ski-touring(*)	wildlife viewing(*)
guest ranches	dog-sledding(*)	sail cruise (*)
power cuise(*)	sea kayak (*)	scuba diving (*)

In the northwest, adventure tourism is only in its infancy. The products presently offered here are indicated in the above list with an asterick. While a wide range of activities is now available, given the resource attributes of the region there is substantial room for growth both within already offered activities (e.g. trail riding) and those which are not yet provided (e.g. snow-cat skiing).

Increasingly guide outfitters and fish camp operators are becoming involved in adventure products, offering activities such as wildlife viewing, trail riding and hiking to strengthen their operation. One fish operator on the Babine has so embraced this concept that he has purchased a helicopter to offer alpine hiking as a secondary product. In addition to these operations, there are now 16 businesses registered with the North by Northwest tourist region who are entirely based on adventure product. It is estimated that this only represents half of the actual number of adventure operators active in the region [16]

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[14] *Outdoor Recreation Council of B.C. Adventure Travel in British Columbia. March, 1988.*

[15] *DPA Group. Economic Impacts of the Adventure Travel Industry in B.C. Nov. 1987*

[16] *Based on the results of the marine adventure operators survey done as part of the Marine Tourism Survey.*

activities: sail-cruise, power cruise, sea kayaking, marine wildlife viewing and scuba. The outstanding scenic and wildlife resources of places such as the Inside Passage and South Moresby are generating a very strong interest in the region by marine adventure tourism operators and attracting an international clientel. The number of marine adventure tourism businesses active in the region has been determined through the Marine Tourism Opportunity Analysis Study and is indicated in the following table.

Table 4.15: Marine Adventure Tourism Operators in the North x Northwest Region

Activity	# of Companies Operating in NW B.C.	Based in NW B.C.
Power Cruise	20	6
Sail Cruise	21	2
Sea Kayak	6	0
Scuba	3	0
Wildlife Viewing (marine)	42	2
Totals	**92**	**10**

Source: B.C. Ministry of Tourism. Marine Tourism Opportunity Study p 2-10 and Exhibits: 7.1, 8.1, 9.1, 10.1, 11.1

Adventure tourism products can generate significant per diem revenues as the following table developed by the ORC study shows:

Table 4.16: Adventure Product Synoptic - 1986

Product	Average Length (days)	Average Cost per Day ($)	Average Max. Trip Size (# of persons)
Backpacking	7	74	12
Hiking	8	75	16
Nature Tours (land)	5	148	18
Nature Tours (water)	7	155	10
Sail Cruise	8	172	6
Canoeing	6	56	12
Ski Touring	6	80	16
Heli-ski	7	390	40
River Rafting	6	122	20
Trail Riding	8	79	25
Scuba Diving	4	80	8

Source: ORC, Adventure Tourism in B.C. - Summary.

Trends: According to Tourism Canada, growth in the adventure tourism is expected to be brisk as Table 4.17 shows.

Table 4.17: Adventure Travel Growth Forecasts for B.C. Industry

Heli-ski	14%	Cross-country/Ski-tour	27%
Backpacking	29%	Trail Riding	21%
Nature Viewing	13%	SCUBA	9%
Rafting	20%	Canoe	18%
Sailing Tours	21%	Boat Tours	24%

Source: Tourism Canada, Adventure Tourism in Western Canada, p.12

This growth potential is characteristic of a young industry. To realize its potential - particularly in the northwest - the need to develop professional marketing programs to reach distance markets is crucial. The North by Northwest Tourist Association is already well aware of this and undertaking co-operative ventures with industry.

A key requirement is to ensure that the quality of services and facilities are of a standard to enable northwest adventure product to compete. Historically, many adventure tourism operations began as simple 'life-styler' operations. As the industry matures, the requirement

will increasingly be for quality accommodation facilities, services and marketing. Already some operators in region are moving in this direction and reaping the benefits.

Resource Issues: Adventure tourism operations are extremely dependent upon a quality resource base since it is so much of the product they offer. Given that the markets being sought are in part international, the industry in northwestern B.C. is competing with other locations around the world. The superb scenic, wildlife, wilderness attributes of the northwest presently enables the industry to be a strong contender in this market place. However, if the resource base is degraded through insensitive logging or mining exploration, the ability of the region to generate jobs and revenues will be degraded.

The importance of resource issues to adventure tourism businesses is indicated by the following responses of marine operators in the Marine Tourism Operators Survey regarding their most serious concerns:

Table 4.18: Leading Resource Concerns for Marine Tourism Operators

Issue	% of Sample Citing as #1 Concern
- competition from commercial fisheries	23%
- depletion of fish stocks	19%
- pollution	17%
- logging	15%
- general resource management problems	10%

Source: Marine Tourism Opportunities Analysis, p. 15-2. Includes sportfishing operators.

It is especially important that the top calibre features of the region be protected, such as the trophy steelhead run of the Babine, the outstanding wilderness rafting experience of the Tatshenshini, the grizzly populations of the Khutzeymateen, and more. These represent the cream of the region's adventure product. Such premium locations provide exceptional marketing images and play a crucial role in attracting tourists to the region as a whole - be they adventure travellers, automobile tourers, or general visitors. As well, should the quality of such sites be seriously diminished, the implication is that no part of the tourism resource is special enough to deserve safeguarding. Such a message will undermine marketing initiatives and the ability of the region to attract tourism investors.

.3 Resorts:

The resort sector of the tourism economy refers to those activities/accommodation facilities which are of such scale as to make them the focus or destination for travellers. Types of destination resorts include down hill ski resorts, golf resorts, larger scale family resorts. Examples of such resort product are Harrison Hot Springs (4 seasons), Panorama (downhill ski) near Invermere and Okanagan Lake Resort.

Resorts need both high quality tourist features (e.g. a major hot springs, ski hill, lake water frontage, etc.) and access to large populations and/or major tourist flows to be viable. A high volume of guests is essential to generate the substantial revenues required to pay back the investment made for the costly resort facilities. Therefore, a destination resort requires a transportation system capable of moving large numbers of travellers.

A few locations in the province meet these requirements so exceptionally well as to have been able to develop into resort centres or communities(e.g. Whistler, Invermere, Okanagan Lake, 100 Mile House, southern Vancouver Island).

Northwestern B.C. is at a disadvantage to develop major destination resort product for three reasons:

- it is remote from major urban populations and tourism flows
- its transportation network isn't easily able to handle large volumes of travellers
- the cooler (and on the coast, moister) climate is a disincentive.

Currently, the northwest supports a couple of smaller regional scale resorts which service the northwest market. Mt. Layton Hotsprings Resort attracts year round use due to its hotsprings, and the excellent powder snow and terrain of Hudson Bay Mountain at Smithers is the basis for a community-oriented ski resort.

In the foreseeable future, resort development in the northwest will likely remain a minor feature of the regional tourism industry. A couple of sites have potential however. Smithers may have the best chance of developing smaller scale resort product which could attract visitors from the Lower Mainland and southeast Alaska due to its ski hill, potential to offer a variety of adventure tourism products, attractive scenery, more favourable weather and jet capable airport.

The new ski hill at Shames outside of Terrace will also likely develop into a regional scale resort over time. However, problematic winter flying weather at Terrace may be a disincentive in attracting travellers from beyond the northwest. On the Queen Charlotte Islands, the creation of South Moresby Park could result in the development of smaller resort facilities over time (similar to those found at Gustavus Alaska, in Glacier Bay National Park).

5.0 TOURISM RESOURCE INVENTORY METHODOLOGY

5.1 GENERAL DESIGN ISSUES

Since tourism in British Columbia and northwestern B.C. is so dependent upon the natural environment, the need exists to develop a rigorous means of inventorying the tourism resource. Development of such a methodology was a key part of this study.

.1 Applications

Such a tourism resource inventory must be usable for the following applications:

- identification of the tourism resource - to determine the extent and quality of the land/water base that it is capable of supporting
- integrated resource planning - to ensure that tourism values are not jeopardized by the actions of other land users
- tourism development siting - to identify environmentally suitable, economically viable locations for new tourism developments
- tourism resource management - to enable the planning and management of the tourism industry from a resources perspective so that it does not degrade the land/water base upon which it depends

.2 Design Requirements

To be credible and useful, the inventory must be:

- methodologically consistent: arbitrary definitions will result in an arbitrary inventory
- based on accepted data sources
- use quantified factor definitions to enable rational comparisons between sites and products
- standardized; inventory ratings should remain standard regardless of the region it is applied to

5.2 CLASSIFICATION OF NATURAL RESOURCE TOURISM PRODUCT

Classification of the distinct natural resource-based tourism products is an essential inventory pre-requisite to enable standardized assessment (regardless of produt type or attributes). It provides the framework upon which the inventory/analysis methodology is constructed.

A hierarchical classification system for natural resource based tourism activities has been developed based on:

1) Product Sectors
2) Product Groupings
3) Products

.1 Product Sectors

The most general classification level, product sectors are based on the standard sectors used by Tourism B.C. Each of these are characterized by a particular "focus", be it activity, facility or transportation. The natural resource-based tourism product sectors and their respective foci are as follows:

Table 5.1: NATURAL RESOURCE TOURISM PRODUCT SECTORS

Product Sector	Focus
- Resort	facility
- Touring	transportation (land)
- Cruise	transportation (marine)
- Outdoors/adventure	activity

Because of the wide range of offerings which are associated with the outdoors/adventure sector, further subdivision is necessary. Two nested sub-categories are used; product groupings and products.

.2 Product Groupings and Products

A product grouping encompasses a "family" of similar outdoor/adventure products. Recognition of similarity amongst the various activities within a product grouping enables each family of individual products to be compiled onto a common inventory map. The total list of outdoor/adventure product groupings and their respective products are listed in Table 5.2.

The Tourism Zonation system (front/mid/back) used for systems planning of the tourism resource and discussed in Chapter 2.5 has been linked to each product.

5.3 TOURISM LOCATION FACTORS: Defining Product Requirements

A tourism inventory system should not just record existing use patterns, it should be capable of forecasting future ones. To do this, it must be structured upon those location requirements which determine the quality and distribution of the tourism resource. Each tourism product has a distinctive set of geographical "factors" which determine its present and potential spatial distribution. These can be categorized into three main types of factors:

1) biophysical factors
2) human factors
3) composite factors

Table 5.2: OUTDOOR/ADVENTURE SEGMENTS AND PRODUCTS

Grouping	Product	Tourism Zone
land adventure	- bike touring	- front
	- mountain biking	- mid/front/back
	- trail riding	- mid/back
	- backpacking	- back
	- heli-hiking	- mid
river adventure	- rafting	- front/mid/back
	- canoeing	- mid/back
	- river kayaking	- front/mid
lake adventure	- sail/motor cruise	- front/mid
	- houseboat	- front/mid
marine adventure	- sail/motor cruise	- front/mid/back
	- sea kayaking	- front/mid/back
	- scuba diving	- front/mid
winter adventure	- heli-skiing	- mid
	- cat-skiing	- mid
	- snowmobiling	- mid
	- x-country skiing	- front
	- ski-touring	- back
	- dog-sledding	- mid/back
fish & wildlife	- guided hunting	- mid/back
	- wildlife viewing	- front/mid/back
	- guided fishing	- mid/front/back

.1 Biophysical Factors

The three Biophysical factors are:

a) landforms
b) climate
c) vegetation

These three essential factors together define the broad, yet intricate texture of the natural environment (in the same fashion that the three primary colours combine to reveal the range of hues). Each of the biophysical factors can be further subdivided to enable very precise natural environment requirements of individual tourism products to be defined. For example, a viable heli-ski operation requires mountains (landform), sub-alpine/alpine and forest cover (vegetation) and at least 1 metre of snow over a 4 month season (climate).

Biophysical factors cannot be changed; they are givens. Therefore if a certain site is lacking in an essential biophysical factor, it will never have the capability to support certain tourism products, for example a site lacking in grade 3/4 water can not offer white water river rafting.

.2 Human Factors

Human factors relate to human-created attributes that affect tourism product location. They include:

a) settlements
b) access
c) land status
d) spatial requirements

These human factors are also subdivided into categories/subcategories to enable precise definition of the infrastructural requirements of individual tourism products. To illustrate, the viability of a golf resort is especially dependent upon such human-created considerations as proximity to major urban populations, and access via airport and highway.

Unlike their biophysical counterparts, *human factors can change, thereby affecting the locational viability of tourism operations.* For example, the creation of a new airport or major highway into a previously isolated region will bring new tourism opportunities. Similarly, a change in land tenure policies may revise tourism opportunities, such as occurs when a new National Park is designated.

.3 Composite (or Natural Resource) Factors

Natural resources are classically defined as naturally occurring materials or qualities that can be used by man. Therefore composite factors are an amalgam of natural environment and human usage patterns. The composite factors used in the inventory process involve many of

the long-recognized natural resource sectors that contribute to the tourism product offerings in B.C.:

a) wildlife resources
b) fish resources
c) recreation resources
d) visual resources
e) cultural heritage resources

While natural resources have definite biophysical requirements and therefore are locationally governed by Nature - e.g. killer whales don't live in interior B.C. - *human management practices can enhance or degrade the composite factor values.* Such changes can affect tourism product options. For example, clearcutting a forest in a prime viewscape may diminish the value and viability of tourism on a site. By contrast, managing a rivers like the Kispiox, Morice and Babine to retain exceptional sized steelhead can enhance tourism values.

.4 Categories/Sub-categories

Since the categories/subcategories chosen for the inventory will organize the data collection, determine its "deep structure" and establish its effectiveness, they must be selected carefully.

For example, many adventure products require specific terrain slope gradients (a landform category). Selection of the slope subcategories must correspond with actual tourism product requirements or the data will be meaningless. Research with the skiing industry shows that 70% slope is a key breakpoint between skiable and overly steep terrain. Organizing slope data into "under 80%" and "over 80%" subcategories would miss this crucial point and be of no utility. Therefore categories/sub-categories definitions must be developed in consultation with the tourism industry to reflect 'real world' needs.[1].

Table 5.3 lists the various categories/subscategories and their definitions used in this project.

As well, the categories/subcategories must integrate with existing "theme" mapping on climate, biogeoclimatic (vegetation) zones, land status, and recreation capability. Table 5.4 relates the tourism resource inventory factors to individual theme maps.

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[1] *Accordingly, the categories/subcategories proposed in Table 4 have been developed after extensive consultation with tourism operators in several studies: Kootenay Winter Commercial Recreation Opportunities Study - 1989; Whistler-Pemberton Commercial Recreation Opportunities Study - 1990; East Cariboo Commercial Recreation Opportunities Study - 1990 (all for B.C. Ministry of Crown Lands); and:*

Ethos Consulting and Tourism Research Group: Adventure Tourism in Western Canada - 1989; Adventure Tourism in Eastern Canada - 1990 (both for Tourism Canada); and:

Ethos Consulting, Tourism Research Group, Bioquest International. The Commercial Wildlife Viewing Product, 1990 (B.C. Ministry of Tourism).

Table 5.3. TOURISM PRODUCT LOCATION FACTORS

Theme Map Element	Category	Sub-category	Definition
1. BIOPHYSICAL FACTORS			
LANDFORMS	**Land Features**		
	mountains	high	- 2,700 m+ altitude
		moderate	- 1,500 - 2,700 m altitude
		low	- 600 - 1,500 m altitude
	hills		- 0 - 600 m altitude
	valleys		- confined, lowland level/gentle: ".5 - 16 km wide; <20% slope
	plains		- extensive flat terrain: >16 km. in width; <20% slope
	lakes	large	- area >10 km2+
		small	- area <10 km2+
		chains	- 3 or more linked lakes
		tarns	- alpine/subalpine lakes
	rivers	flatwater	- grade 1/2
		whitewater	- grade 3/4
		unrunable	- grade 5+
	Slope		
	gentle		- 0-20%
	moderate		- 20-40%
	steep		- 40-70%
	extreme		- over 70%
	terrain breaks		- discontinuous with cliffs
	Vertical		
	minimal		- 0 - 75m
	low		- 75 - 150m
	moderately-low		- 150 - 300m
	moderately-high		- 300 - 600m
	high		- 600 - 750m
	very high		- 750 - 1500(+)m
CLIMATE	**Climate Zones**		
	maritime		- Ministry of Forests
	continental		- biogeoclimatic (BCG) definitions
	Precipitation		
	very wet		- > 250 cm/yr
	wet		- 150-250 cm/year

Theme Map Element	Category	Sub-category	Definition
	moist		- 50 - 150 cm/year
	dry		- < 50 cm/year
	Temperature		
	very hot		- July mean temp: >20 C+
	hot		- July mean temp: 16-20 C
	warm		- July mean temp: 14-16 C
	cool		- July mean temp: <14 C
	cold		- July mean: <14 C; Jan mean: <-10
	Snow		
	a) Depth		
	inadequate		- < 1 metre depth for 4 months
	minimum		- 1-2 metre depth for 4 months
	moderate		- 2-3 metre depth for 4 months
	deep		- over 3 metre depth for 4 months
	b) Powder Type		
	wet		- maritime climate zone
	dry		- continental climate zone
	c) Avalanche Hazard		
	acceptable		- depends on slope/weather
	unacceptable		
	Visibility		
	good		- > 66% flying days;dry zone
	moderate		- 33-66% flying days;wet/moist
	poor		- < 33% flying days;very wet zone
VEGETATION	glacier		- glacier on NTS maps
	alpine		- Alpine Tundra BCG zone
	sub-alpine		- high altitude forest/meadow "parkland" ESSF(p), SWB(p), MM(p)BCG zones
	dry forest		- Interior Douglas Fir BCG zone
	grass/forest		- Ponderosa Pine/Bunch Grass BCGs
	general forest		- other BCG zones
2. HUMAN FACTORS			
LAND STATUS	communities	large	- >100,000 population
		medium	- 20 - 100,000 "
		small	- <20,000
	resorts		- destination resorts
	private land		

Table 5.3. TOURISM PRODUCT LOCATION FACTORS (cont'd)

Theme Map Element	Category	Sub-category	Definition
	Crown land		
	Indian Reserves		
	recreational tenures		
	parks; recreation areas		
	TSA; TFL borders		
	Wildlife Management Areas		
	Spatial Requirements (hectares)		
	5-20		
	20-40		
	40-100		
	100-500		
	500-1,000		
	1,000-5,000		
	5,000-10,000		
	10,000		
	# of km		
	other:		
ACCESS	**Air**		
	airports: jet		- jet capable airports
	-max drive to jet airport (hrs)	1	
		2	
		3.	
		5.	
		5+.	
	other airports		- small plane airports, strips, float plane base
	max fixed wing flight time from jet airport:	30 min.	
		1 hr.	
		2 hr.	
	heli-bases		- helicopter bases
	max flight time	15 min.	
		30 min.	
		60 min.	
	Ground		
	railways		
	highways		
	other paved roads		

Table 5.3. TOURISM PRODUCT LOCATION FACTORS (cont'd)

Theme Map Element	Category	Sub-category	Definition
	max drive time to large community		
		1 hr.	
		3 hr.	
		5 hr.	
	resource roads		
		main	- gravel forest main roads
			secondary /other gravel/4x4 roads
	trails	horse	- horse & foot trails
		foot	- foot trails
		ski	- ski trails
		snowmobile	- snowmobile trails
Marine	harbours		- large ship capable ports
	marinas		- small boat marinas
	anchorages		- havens 5m - 25 m. depth

3. COMPOSITE (NATURAL RESOURCE) FACTORS

FISH AND WILDLIFE

Wildlife Cap.	high	- Can. Land Inventory class 1&2
	moderate	- Can. Land Inventory class 3&4
	low	- Can. Land Inventory class 5&6
Wildlife Viewing		- wildlife viewing sites identified by Wildlife Branch
Fish Cap.	high	- Can. Land Inventory class 1&2
	moderate	- Can. Land Inventory class 3&4
	low	- Can. Land Inventory class 5&6

RECREATION VISUAL & CULTURAL

Recreation Cap.	high	- Can. Land Inventory class 1&2; MoF very high, high
	moderate	- Can. Land Inventory class 3&4; MoF moderate
	low	- Can. Land Inventory class 5&6; MoF low
Visual	pristine	- MoF "Preservation" - no logging
	intact	- MoF "Retention" - logging alters <6% of landscape unit

Table 5.3. TOURISM PRODUCT LOCATION FACTORS (cont'd)

Theme Map Element	Category	Sub-category	Definition
		partially intact	- MoF "Partial Retention" - logging alters 6-15% of landscape unit
		altered	- MoF "Modification/Maximum Modification/Excessive Modification" logging alters >15% of landscape
	Cultural		
		heritage sites archeologic sites	- heritage sites inventory as available for public use
TOURISM ZONES			
		urban	- areas within municipalities,etc.
		frontcountry	- settled rural land: private land; agricultural land; highway corridors; destination ski resorts; "Rural" ROS zones
		backcountry	- "Primitive", "Semi-primitive non-motorized" ROS zones
		midcountry	- land not included in other categories - "Resource roaded", "Semi-primitive roaded" ROS zones

Table 5.4 THEME MAP SOURCES

Theme Map	Element	Source
1. BIOPHYSICAL FACTORS		
LANDFORMS	Land Features	- NTS maps (1:250,000; 1:50,000)
	Marine Features	- air photos
	Slope	- NTS maps (1:50,000)
	Vertical	- NTS maps (1:50,000)
CLIMATE	Climate Zones	- MoF biogeoclimatic mapping
	Precipitation	- UBC climate mapping
	Temperature	
	Snow a) Depth	- ski operators; climate mapping
	b) Powder Type	- biogeoclimatic mapping
	c)Avalanche Hazard	- ski operators; climate mapping
	Visibility	- precipitation mapping; operators
VEGETATION		- NTS maps; biogeoclimatic mapping
2. HUMAN FACTORS		
LAND STATUS		- B.C. Land Status Maps - Min of Crown Lands
SPATIAL REQUIREMENTS		- operators
ACCESS	Air	- B.C. Land Status Maps
3. COMPOSITE (NATURAL RESOURCE) FACTORS		
FISH AND WILDLIFE		
	Wildlife Capability	- Canada Land Inventory & B.C.Wildlife Branch
	Wildlife Viewing	- B.C. Wildlife Branch; Wildlife Viewing Sites Inventory
	Fish Capability	- Canada Land Inventory & B.C. Fisheries Branch
RECREATION, VISUAL & CULTURAL	Recreation Capability	- Canada Land Inventory,Min. of Forests Recreation Features Maps
	Visual	- Min. of Forests Visual Inventory
	Cultural	- Heritage Conservation Branch
TOURISM ZONES		- Land Status Maps - Min. of Forests ROS maps

.5 Factor Significance

The significance of particular location factors used to define individual tourism products varies. They can fall in one of four classes:

a) essential: *the factor is an absolute product requirement*; code = (e) (e.g. >1 m snow depth over 4 months is an essential requirement for downhill skiing). Therefore, essential factors define the geographic range within which a product will be viable.

b) quality modifier: *the factor is a relative product requirement* (i.e. desirable but not essential). Quality factors therefore determine the calibre of a viable site. A two step scale is used with a (2) factor representing a high quality product attribute and (1) moderate quality; code = (2), (1) (e.g. a wildlife viewing business located in CLI High Capability Rating has a quality level of (2), and CLI Moderate Capability has a quality level of (1)

c) constraint: *the factor constrains tourism product.* Therefore, constraint factors degrade quality of a site. code = (c) (e.g. presence of a mountain goat winter range on a particular site constrains or precludes heli-skiing)

d) not applicable: *the factor is not relevant to a particular tourism product*; code = blank (e.g. snow depth is not an applicable factor to sail charter operations)

5.4 THE TOURISM INVENTORY IS DYNAMIC

As indicated in section 5.3, those aspects of tourism products which are determined by human and composite (natural resources) factors are subject to change. This means that the distribution and value of the tourism resource may shift over time. For example, creation of a new jet-capable airport may enable heli-skiing operations to be established in adjacent mountains that before were too remote to be viable. Therefore, the tourism inventory needs to be dynamic.

Accordingly, the inventory methodology has been designed to facilitate this. Given that products are based on specific factor definitions, a change in the status of factors governing a specific product (such as the heli-skiing access example cited above) results in a redrawing of tourism zones boundaries. Such redrawing can be easily accomplished once the inventory has been digitized to a GIS system, simply by inputting information on the revised factor status.

5.5 TOURISM PRODUCT SUMMARIES

Working from the foregoing methodology, product summaries have been developed for each of the natural resource based tourism products offered in northwestern British Columbia.

Tourism Product Location Factors

HELI-SKIING

Sector: Outdoor/Adventure
Tourism Zone: Mid
Grouping: Winter

Focus: Activity

1.0 BIOPHYSICAL FACTORS:

1.1 Features

.1 **land:** mountains - moderate (e)
.2 **marine:**
.3 **slope:**
.4 **vertical:**

1.2 Climate:

.1 **zones:** continental (1), maritime (2)
.2 **snow:** depth: 1-2 m (e)
powder: dry (1), wet (2)
avalanche risk: acceptable (e)
.3 **visibility:** > 66% flying days; dry zone (1), 33-66% flying days; wet/moist zone (2); > 33% (e)

1.3 Vegetation: subalpine/alpine (e), glacier (1)

2.0 HUMAN FACTORS:

2.1 Settlement: heli-lodge, <20,000 population or destination resort (e)
.2 **Status:** Crown recreation lease (e)
.3 **Space Requirements:** 1500-2500 km² [week]/ 500 km² [day] (e)

2.2 Access:
air: max. 5 hrs. drive from regional airport (e), max. 15 minute heli-flight to base (e); <8 min. heli-flight (1); >8<15 flight (2)
ground: resource road access to lodge (e)
marine:

3.0 NATURAL RESOURCE FACTORS:

3.1 Wildlife:
capability
viewing sites:

3.2 Fish:

3.3 Recreation, Visual & Cultural:

.1 **recreation capability:** moderate constraints (2)
.2 **visual quality:** intact/partially intact (1), altered (2)
.3 **cultural features:**

(see Appendix 1) These summaries provide the framework upon which product-by-product mapping of the tourism resource has been based for the Smithers hinterland.

5.6 CAPABILITY INVENTORY RATING

The methodology that culminates in the Tourism Product Summaries enables identification of those geographic areas where particular products are viable. However, another level of mapped information is required to identify the relative quality - or capability - of different sites. From the management perspective, such information on site capability is important for planning and priorization purposes. Theoretically, there are different means by which such a quality or capability rating might be accomplished for tourism:

1) It could be linked to the *ability of sites to attract visitors from distance markets.* By this approach, locations of international significance (e.g. Mt. Edziza) would receive a top rating. At the other end of the scale, sites with no capability would get the lowest rating.

   The attraction of this approach is that it relates directly to the fact that tourism is a market driven enterprise. Hence inventory information as to which sites have international, national, provincial and regional appeal would be very usable. The problem with this approach is that there is no easy and objective means to determine this relative rating.

2) It could be *based on constraints and preference* factors. Under this approach a site with minimal constraint and maximum preference factors would rank highest. By contrast, sites associated with minimal preference and maximum constraint factors would receive the lowest capability.

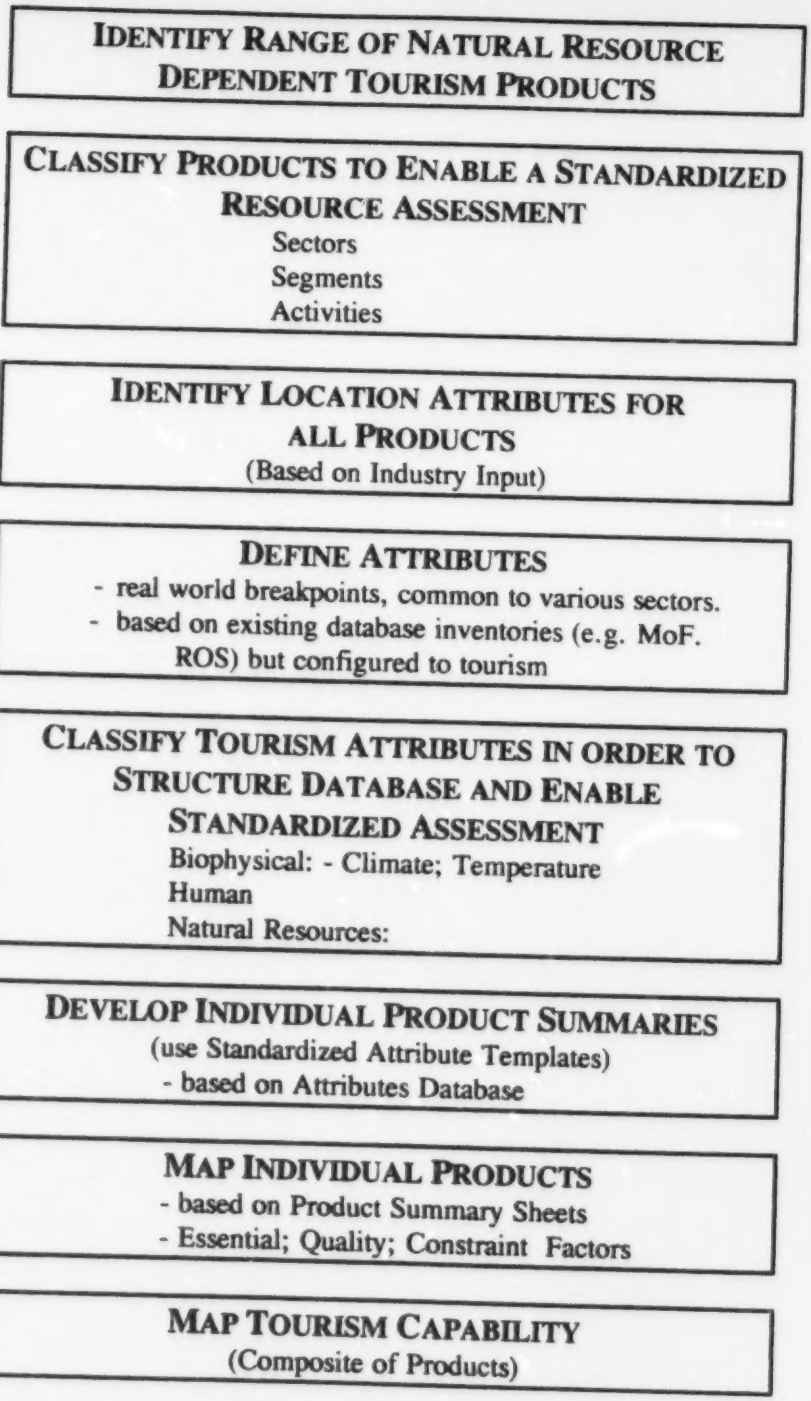
   The appeal of this approach is that it builds on the tourism inventory locational factors. The problem is that it doesn't enable multiple products to be easily combined into a cumulative capability for the tourism resource as a whole. It is suitable however for providing quality rating for individual tourism products.

3) It could be *based on the ability of a site to support multiple products.* Under this system, a site able to support several products would rate higher than another which was only able to support one. The advantage of this approach is that it can be easily quantified. The disadvantage is that the number of products does not necessarily give insight into the relative quality of the resource.

The method utilized in the Smithers STRM demonstration project is a combination of options 2 and 3. Details on this method are discribed in section 6.4.

Figure 1 summarizes the overall tourism resource inventory process in flowchart form.

Figure 1. TOURISM RESOURCE INVENTORY PROCESS


IDENTIFY RANGE OF NATURAL RESOURCE DEPENDENT TOURISM PRODUCTS
CLASSIFY PRODUCTS TO ENABLE A STANDARDIZED RESOURCE ASSESSMENT
Sectors
Segments
Activities
IDENTIFY LOCATION ATTRIBUTES FOR ALL PRODUCTS
(Based on Industry Input)
DEFINE ATTRIBUTES
- real world breakpoints, common to various sectors.
- based on existing database inventories (e.g. MoF. ROS) but configured to tourism
CLASSIFY TOURISM ATTRIBUTES IN ORDER TO STRUCTURE DATABASE AND ENABLE STANDARDIZED ASSESSMENT
Biophysical: - Climate; Temperature
Human
Natural Resources:
DEVELOP INDIVIDUAL PRODUCT SUMMARIES
(use Standardized Attribute Templates)
- based on Attributes Database
MAP INDIVIDUAL PRODUCTS
- based on Product Summary Sheets
- Essential; Quality; Constraint Factors
MAP TOURISM CAPABILITY
(Composite of Products)

6.0 STRM MAPPING DEMONSTRATION PROJECT

6.1 OVERLAY THEME MAPPING

To test the foregoing methodology, the location factors identified in chapter 5 that define the tourism products were compiled and mapped for the Smithers STRM area (Study area map below) on the following set of mylar overlay theme maps:

1) Biophysical Factors	- Altitude - Slope - Vegetation/Climate Zones
2) Human Factors	- Land Status - Access
3) Natural Resource Factors	- Fish and Wildlife - Recreation/Visual - Tourism Zones

The factors mapped on these overlays are described below. Once complete, the theme maps could then be used to identify the tourism resource for the STRM area on a product by product basis.

.1 Biophysical Theme Maps

a) Altitude:

Altitude was based on the contours shown on the 1:250,000 NTS base map. Where more detail was required, 1:50,000 sheets were used. Altitude was important in identifying certain land form features which are defined by height (eg. mountains) and also to determine vertical relief.

b) Slope:

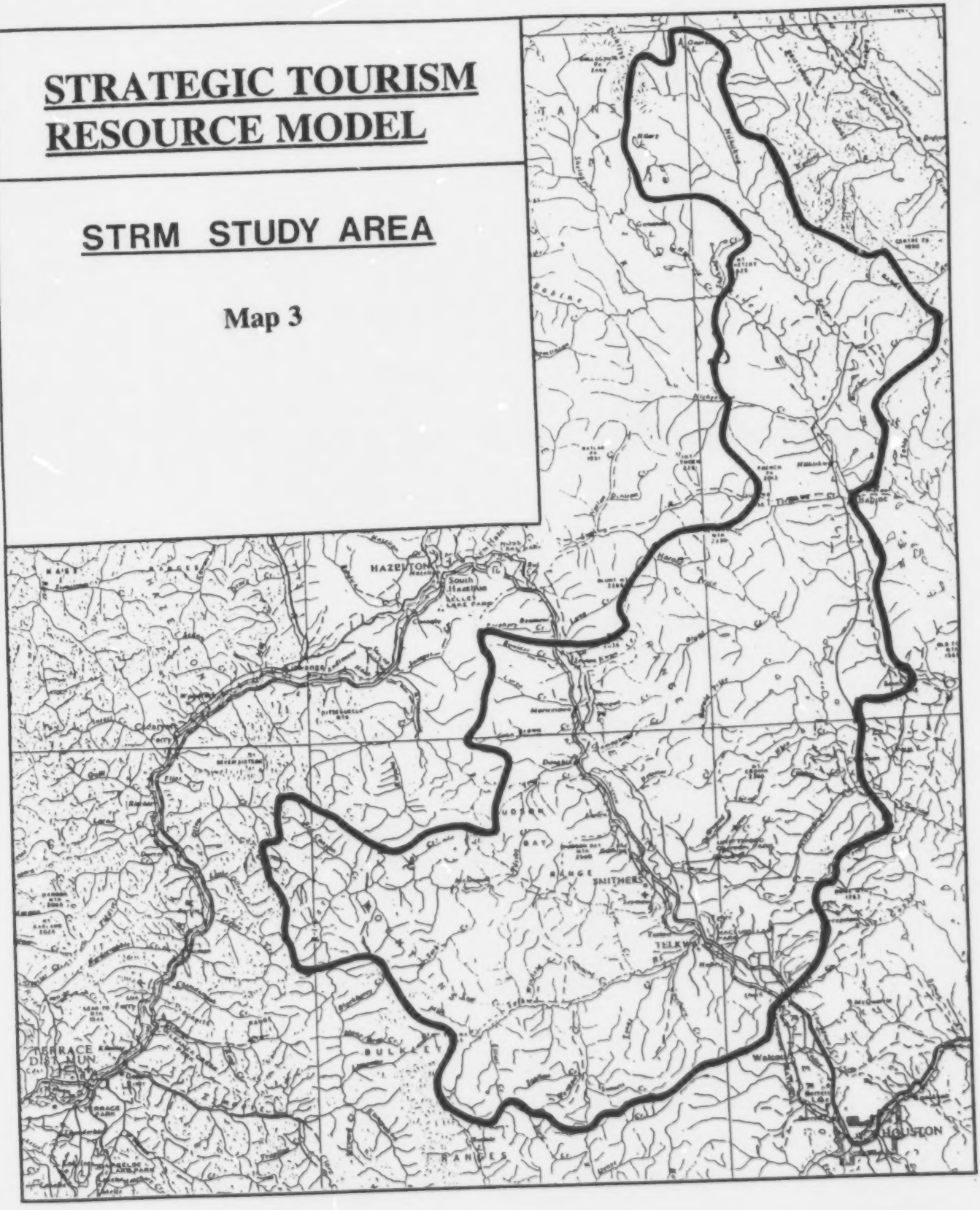
Working from 1:50,000 topographic maps, the following slope zones were mapped:

- 0-20%
- 20-40%
- 40-70%
- over 70%

STRATEGIC TOURISM RESOURCE MODEL

STRM STUDY AREA

Map 3



c) Vegetation:

Ministry of Forests Biogeoclimatic mapping was used to identify the following zones:

- glacier
- alpine
- sub-alpine parkland
- general forestland
- cleared/grassland

As well, the wet, moist and dry climate zones were derived from these maps.(The wet zone relates to the Maritime climate regime, the dry to the Continental regime, while the moist zone represents a transition between the two.)

.2 Human Factors

a) Land Status:

B.C. Land Status Maps were used to compile the following information:

- private land
- municipalities
- Indian reserves
- provincial parks/recreation areas

b) Access:

The following items were mapped on this overlay:

- highways
- other paved & resource main roads
- secondary resource roads
- trails
- 8 and 15 minute helicopter flight zones
- regional (jet-capable) airports
- other airports
- helicopter bases

Information on highway, road and trail access was compiled from B.C. Land Status Maps and from Ministry of Forest Recreation maps. Flight access zones were calculated using standard helicopter flight speeds from the Smithers hel-base.

.3 Natural Resource Factors

a) Fish & Wildlife:

The following wildlife data were mapped:

- high capability zone (CLI 1&2)
- moderate capability zone (CLI 3)
- winter range areas
- wildlife viewing sites

While Canada Land Inventory mapping provided the initial source for this overlay, this data is not ideal given that it was done in the mid-1970's and focussed on ungulates. Since then 1:50,000 scale biophysical mapping has been undertaken for selected portions of the province ; comprehensive coverage, however, is not available for the STRM. Instead, input from the regional wildlife biologist enabled information on goats, and grizzlies to be added and some of the CLI zones were revised. Input from guide/outfitters was also used to refine the wildlife overlay.

The Ministry of Wildlife's Ecoregion mapping system was investigated as a possible additional source for wildlife information. At present this mapping is available only at a very generalized level for the STRM area. In future, once detailed data is available it will serve as a preferred source on wildlife values to the CLI maps. Wildlife viewing information was derived from the data compiled for the study entitled Wildlife Viewing in B.C, the Tourism Potential.

Mapping of the fish resource entailed identification of prime fishing streams/lakes. The source for this information was Canada Land Inventory recreational mapping, B.C. Fishing Regulations and Forest Recreation Maps. In addition, the fishing inventory mapping compiled by the B.C. Land Inventory (the former Resource Analysis Unit) was consulted. While this source provides information on species present in a river and stream morphology, it offers limited insight into the relative significance of individual fisheries.

b) Recreation/Visual:

Information on recreation was derived from: Ministry of Forests Recreation Mapping, CLI recreation maps and field experience in the STRM area. The following items were mapped:

- high capability (CLI 1&2; MoF Very High/High)
- moderate capability (CLI 3;MoF Moderate)

As well, visually important zones were mapped based on Ministry of Forests information and study team field experience. Areas of prime concern were key viewscapes along the Highway 16 corridor, in the Smithers vicinity, and along the Telkwa Pass and Babine Lake roads.

Visual categories used in this study are based on the degree of alteration as defined by the MoF Visual Guideline zones:

Pristine:	- MoF "Preservation" - no logging
Intact:	- MoF "Retention" - logging alters < 5% of landscape unit
Partially:	- MoF "Partial Retention" - logging alters 6-15% of landscape unit
Altered:	- MoF "Modification/Maximum Modification" - logging alters > 15% of landscape

c) Tourism Zones:

Built on the Tourism Zonation system described in chapter 2, the following zones were mapped:

- urban
- frontcountry
- midcountry
- backcountry

The urban zone conforms with municipalities or Indian Reserve communities. The frontcountry is mapped to conform with contiguous blocks of private lands (i.e. individual isolated private lots may be excluded from the frontcountry). It also relates to the Ministry of Forests Recreation Opportunity Spectrum (ROS) "Rural" zone. The midcountry conforms to the Ministry of Forests ROS "Motorized Resource" and "Semi-Primitive Motorized" zones. The midcountry is also identified by the presence of resource roads and resource extraction. The backcountry corresponds with the ROS Primitive and Semi-Primitive Non-Motorized zones. It is unroaded, unaltered, and has a minimum contiguous area of 5000 ha. (This conforms with both the U.S. Wilderness Act and the B.C. Wilderness Advisory Committee's minimum size definition of wilderness.)

6.2 PRODUCT BY PRODUCT ANALYSIS

With the various location factors now compiled on the overlay theme maps, product by product tourism resource mapping was undertaken for the following activities:

Sector	Segment	Activity
Outdoor/Adventure	- winter	- heli-skiing - snow-cat skiing - snowmobiling - ski-touring
	- fish/wildlife	- guided hunting - wildlife viewing - guided fishing
	- land	- backpacking
	- river	- rafting
Resort		- downhill skiing
Touring		- automobile touring

These activities were identified by the Steering Committee as being the priority tourism products in the Smithers area.

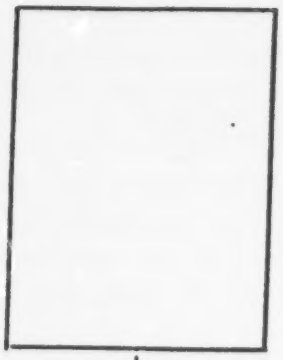
For each activity a two step mapping procedure was followed based on the data compiled in the Product Summary Sheets (see Appendix):

1) the Essential Location Factors (coded "e" on the Summary Sheets) were mapped *to determine the maximum geographic range* within which a product could be viable. Essential factors were primarily related to Biophysical factors (e.g. snow depth, slope, vegetation type, etc.) and to a lesser extent Human ones (e.g. access).

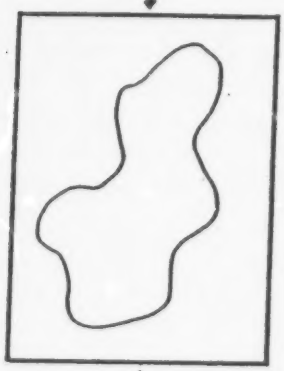
2) the Quality Modifier Factors (coded "2", "1" on the Summary Sheets) were then overlaid to identify *zones of relative product quality (i.e. high, moderate, low) within the viable range.* Only the high and moderate zones were mapped since low sites were deemed to be unlikely to support commercial operations.

Figure 2 TOURISM RESOURCE CAPABILITY MAPPING PROCESS

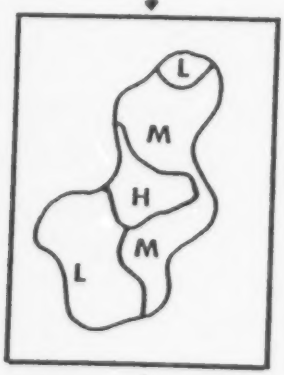
STUDY AREA



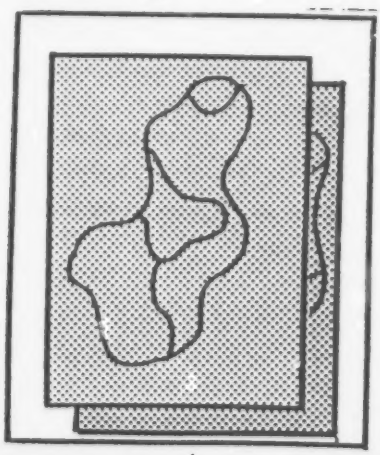
VIABLE RANGE FOR INDIVIDUAL PRODUCT
(e.g. Heli-Skiing)
Determined by Essential Factors



CAPABILITY FOR INDIVIDUAL PRODUCT
(High, Moderate, Low)
Determined by Quality Factors



OVERALL TOURISM RESOURCE CAPABILITY
Based on Multiple Product Diversity and
Composite of Individual Product Capabilities



Quality modifier factors corresponded with Natural Resource Factors (e.g. wildlife, recreation, visual, tourism zones) since the capability of the individual natural resource attributes determined a site's calibre.

Interviews with operators revealed that the best tourism sites are ones which can offer a broad diversity of quality recreational activities. For example, a location which can support wildlife viewing, sports fishing and hunting will be more attractive than one which can only provide for hunting. Therefore, the following diversity rating was incorporated into the Quality Factors analysis:

- high diversity: 3 or more activities are possible on a site
- moderate diversity: 2 activities are possible
- low diversity: 1 activity is possible

A summary of the essential and quality factors used for each product is shown below.

.1 Heli-skiing

Essential: (all needed)		- mountains - slope 40-70% - vertical rise > 750m - 1 m+ snow; - flight visibility >33% of total days - alpine/subalpine/glacier - helicopter access under 15 minutes - no high wildlife constraints
Quality: (all needed for high rating)	**High**	- flight visibility 66% or better - < 8 min heli-flight access time - no rec'n/wildlife constraints
(1 or more determines quality)	**Moderate**	- >8 min heli-flight access - moderate recreation constraints
(1 or more determines quality)	**Low**	- isolated useable terrain blocks - >8 min. heli flight access - moderate wildlife constraints - high recreation constraints

.2 Snowcat Skiing

Essential:

- mountains
- slope 40-70%
- 1 m+ snow
- vertical rise 300 - 600 m
- alpine/subalpine
- road access to subalpine

Quality:

High
- no constraints

Moderate
- moderate rec.'n constraint

Low
- high recreation constraint &/or
- moderate wildlife constraint

.3 Snowmobiling

Essential:

- mountains
- 1 m+ snow
- slope 20-40%
- trails, secondary resource roads or open terrain
- road access to start/end points
- no high wildlife winter range

Quality:

High
- mountains
- 150-600 m vertical relief
- no wildlife constraints
- no recreation constraints
- range of alpine/subalpine/forest
- lakes
- pristine/intact/partial intact viewscapes

Moderate
- moderate recreation constraints
- minimal alpine/subalpine/lakes

Low
- high recreation constraints
- moderate wildlife constraints
- altered viewscapes

.4 Ski Touring

Essential:

- mountains
- slope 20-70%
- 1 m+ snow
- subalpine
- road access to trailhead or max 15 min heli-flight
- backcountry

Quality:

High

- tarns
- high recreation capability
- dramatic vistas
- all of - alpine/subalpine/forest
- good trails
- 150-300 m vertical relief (more for advanced telemarking)
- no recreation conflicts
- pristine viewscapes

Moderate

- moderate recreation capability
- vertical relief 75-150 m
- moderate recreation conflicts
- intact viewscapes

Low

- low recreation capability
- high recreation conflicts
- partial and altered viewscapes

.5 Guided Hunting

Essential:

- high/moderate capability wildlife
- back/midcountry

Quality:

High

- high capability wildlife
- high capability recreation
- backcountry
- pristine viewscapes
- wildlife viewing sites
- high/moderate fishing
- high diversity

Moderate

- moderate capability wildlife
- moderate capability recreation
- midcountry

- intact/partially intact viewscapes
- moderate diversity

Low

- moderate capability wildlife
- midcountry
- altered viewscapes

.6 Wildlife Viewing

Essential:

- high capability wildlife
- wildlife viewing sites of distinctive species
- pristine/intact viewscapes

Quality:

High

- high capability recreation
- high diversity
- backcountry
- pristine viewscapes

Moderate

- moderate capability rec'n
- moderate diversity
- intact/partial intact viewscapes

Low

- low recreation capability
- low diversity
- altered viewscapes

.7 Guided Fishing

Essential:

- prime fishing river with watershed over 10,000 ha, headed by a lake

Quality:

High

- trophy fishery
- backcountry
- pristine & quality viewscapes
- high capability recreation
- high capability wildlife
- wildlife viewing site
- high diversity

Moderate

- very productive fishery
- moderate wildlife capability
- moderate recreation capability

- moderate diversity
- mid or frontcountry
- intact/partially intact viewscapes

Low

- productive fishery
- mid or frontcountry
- low diversity
- altered viewscapes

.8 Backpacking

Essential:

- alpine/subalpine
- slope 20-70%
- backcountry
- pristine viewscapes

Quality:

High

- tarns
- dramatic scenery e.g. in mountains with views to rugged peaks
- established trails
- high capability wildlife
- high capability recreation
- wildlife viewing sites
- high diversity

Moderate

- basic trails/good routes
- moderate capability wildlife
- moderate capability recreation
- moderate diversity

Low

- no trails/difficult routes
- low capability recreation
- low diversity

.9 Rafting

Essential:

- river with grade 3/4 water navigable by raft for > 16 km

Quality:

High

- multi-day trip
- backcountry
- pristine viewscapes

- high recreation capability
- high wildlife capability
- wildlife viewing sites
- high diversity

Moderate
- day trip with grade 4 water
- front/midcountry
- intact/partially intact viewscapes
- moderate wildlife capability
- moderate recreation capability
- moderate diversity

Low
- day trip with little grade 4 water
- front/midcountry
- altered viewscapes

.10 Downhill Skiing

Essential:
- mountains
- slope 40-70% & 20-40%
- vertical relief > 600m with no terrain breaks
- from alpine to valley bottom
- road access

Quality:

High
- close to frontcountry
- 30 minutes from community/ regional airport
- visibility 66% of ski days or better

Moderate
- 30-60 minutes drive
- visibility 33-66% of ski days

Low
- over 60 minutes drive
- visibility < 33% of ski days

.11 Automobile Touring

Essential:
- highways & 2 wheel drive roads
- municipalities
- front/mid country

Quality:

High
- highways, paved roads

- dramatic vistas to mountains, lakes, rivers
- campsites, roadside parks
- tourist services and attractions
- tourist oriented communities
- wildlife viewing sites
- high recreation capability
- frontcountry
- pristine/intact viewscapes

Moderate
- moderate drama vistas
- highways, secondary
- frontcountry
- limited services
- partially intact viewscapes

Low
- resource road mains
- altered viewscapes
- midcountry

6.3 RESULTS OF STRM TOURISM PRODUCT BY PRODUCT MAPPING

Analsys of the product by product mapping reveals the following patterns for the Smithers STRM area

.1 Heli-skiing:

Suitable terrain is limited. Good locations occur on Hudson Bay Mountain, northwest of the ski hill, and McDonell Ridge although wind scouring of snow is a serious problem. In the southwest portion off the STRM - Telkwa Mountains - much of the terrain is overly steep so that skiable areas are walled off by cliffs and tend to be dispersed in small blocks. The presence of wintering caribou in the Telkwa Mountains eliminates some skiable terrain. Sites in the extreme west and southwest fall within the wet climate zone and experience poor visibility (< 33% flying days).

In the Babine Mountains skiable limited terrain occurs however the presence of wintering goats, as well as non-commercial ski-touring and snowmobiling recreational use render these locations non-viable. Sites on the west side of the range are also subject to wind scouring.

In the far north of the STRM area, sites in Baits and Sicintine Ranges are too few, dispersed and distant to be viable.

The only possible heli-skiing prospect is for a small day-use operation based out of the airport (or possibly the Smithers ski-hill) using Hudson Bay Mountain, McDonell Ridge and suitable

sites in the Telkwa Mountains. This would be a marginal operation given the dispersed and limited skiable terrain and less than ideal weather conditions. Being day-oriented it would at a disadvantage to attract skiers from beyond the region.

.2 Cat-skiing:

Six potential cat-skiing sites have been identified: 2 on Hudson Bay Mountain (above and to the west of the ski-hill and in Toboggan Creek) seem promising and might be combined into one operation based out of Smithers. A site on McDonell Ridge also features excellent terrain but would be constrained by the presence of snowmobiling use. (While the two user groups focus on somewhat different slopes, conflicts between these activities have occurred in the Kootenays.)

Three sites are located in the Babine Mountains but two of these involve conflicts with other users. A site at the Big Onion is already heavily used by snowmobilers and on the east side of the range a site in Cronin Creek would conflict with ski tour and wildlife values. The third site on the east side of the range in Higgins Creek has good potential, however runs are short and the site is located in the Babine Mountains Recreation Area.

Cat-skiing has a better chance of being viable in the STRM area than heli-skiing since it is less constrained by weather and requires less investment. Both day or week long products are possible. The Hudson Bay, McDonell Ridge and Higgins sites could have strong market appeal especially given the quality powder snow of the area.

.3 Snowmobiling:

High quality snowmobiling sites occur in subalpine/alpine areas at the Big Onion in the south Babine Mountains and McDonell Ridge. Both of these would be suitable for commercial operations and are already well-used by local recreationists. (In other locations in B.C., commercial and non-commercial snowmobiling use has been compatible. This needs to be confirmed for these sites.)

Long distance routes over the Telkwa Pass and Suskwa Pass could also be offered in conjunction with the area-based opportunities.

.4 Ski Touring:

Quality ski-touring terrain is focussed on the Babine Mountains. Here the combination of suitable slopes, quality scenery, trails and Recreation Area status could support a commercial operation in the northern part of the range. However, given the Recreation Area status, any permitting of a commercial operation should be compatible with the Master Plan. It should also be carefully reviewed with the public, with cabin facilities being located on the edge of rather than in the heart of the range.

Similarly, since helicopter support for a commercial ski touring could impact on wildlife and

non-commercial recreational use, it should be restricted to providing access only to the edge of the Recreation Area. Given that the upper Driftwood valley is heavily used by non-commercial skiers, this location has been excluded commercial consideration.

The southern part of the Babines, while well-suited to ski-touring is already heavily used by snowmobilers. This represents an unacceptable conflict, so that commercial ski-touring is precluded here.

Elsewhere in the study area, ski-touring options are few due to a critical lack of the subalpine vegetation zone. In the Bulkley Ranges, slopes are often overly steep and suitable sites are restricted by cliffs and terrain breaks. As well, both these mountain ranges and also the Sicintine and Baits Ranges in the far north are too distant to be economically accessed by helicopter.

.5 Guided Hunting

Guided hunting has long been a major feature of the Smithers tourism economy. However, roading (due to logging) has resulted in increased non-commercial hunting pressure on game. Therefore, while the finest hunting opportunities in northwestern B.C. occur farther north, around the wilderness rim of the STRM area, quality experiences remain (Mooseskin Johnny, McDonell Lake/Serb Creek, Netalzul, Nilkitkwa, Baits & Sicintine Ranges).

Guided hunting throughout B.C. is regulated by guide-outfitter licences and territories, so that opportunities for an increase in the number of operators in the Smithers hinterland are minimal. In fact, unless land use policies are pursued to maintain the quality of the wildlife resource, the number of operations present in the STRM will diminish. To survive, operators must diversify so as to provide wildlife viewing and fishing in summer. Such diversification will result in longer seasons and improved cashflows. This will enable upgrading of facilities and for higher pricing of product.

.6 Wildlife Viewing

Wildlife viewing sites in the STRM, while limited in number are of high or exceptional quality. The most important site is the Babine River where there is a population of up to 60 grizzly bears that come down to feed on the fish. As well, the chance to view an extremely large sockeye salmon run and associated eagles is also outstanding here. Wildlife viewing on the Babine River can be developed by diversifying either existing fishing lodge or rafting operations.

The opportunity to view goats is exceptional in the Babine Mountains and the Telkwa Mountains. As well, the Telkwa Mountains support a woodland caribou herd. Such backcountry viewing opportunities could be a strong focus for eventual backpacking operations in either of these locations. However, given the fragility of these alpine sites and the need to protect the wildlife populations, any commercial operations must be carefully managed and focussed on smaller sale operations.

A high quality frontcountry viewing site occurs at Moricetown where returning salmon can be watched jumping the falls. The native fishery active here enhances this site. Situated as it is on Highway 16, this location is already utilized by the touring sector. However its value could be enhanced by the creation of an interpretive centre. (This would presumably be owned and operated by the local native band).

.7 Guided Fishing

Guided fishing focuses on the major rivers in the Smithers area: the Babine, Bulkley, Copper, and also on Babine Lake. All of these sites are already important tourism locations. The potential for creating new operations is governed by the size and productivity of the fishery resource. Already, for example, fishing entry restrictions are being placed on the Babine River to maintain its resource quality. Furthermore, while enhancement might enable some increase in catch levels throughout the STRM area, such gains could be offset by a decrease in habitat quality resulting from the actions of other industry sectors, (notably forestry). Still, demand for the high quality fishing experience found in the Smithers area will increase - the Babine River for example is becoming recognized as a world-class fishery. Therefore, the opportunity to increase tourism values will result more from the pricing up of existing product rather than the creation of new operations.

.8 Backpacking

Due to the expanses of dramatic alpine/subalpine landscape found in the Smithers area, the STRM area encompasses several sites suited to commercial backpacking. The best location is found in the Babine Mountains where the rolling tundra is punctuated by rugged peaks. The presence of tarns, wildlife viewing for goats and Recreation Area status only adds to the quality. However, given the small size of this mountain range and its importance for local non-commercial recreation, any operation here should avoid the use of helicopters or the development of cabins within the heart of the Recreation Area.

Other backpacking sites occur in the Telkwa Mountains - where goat and caribou viewing provide an additional benefit. The Howson Peaks and mountains north of the Telkwa Pass are steeper and better suited to mountaineering rather than hiking-oriented backpacking.

In the far north of the STRM, a dramatic if limited backpacking landscape occurs in the Sicintine Range as well.

.9 Rafting

Rafting takes place on the Babine and lower Bulkley River. The Babine is a multi-day wilderness trip which is of international rafting importance due to its outstanding grizzly, salmon and eagle viewing resources, grade 4 water (in the lower half), and trophy steelhead fishery . It is one of the top 5 backcountry rafting rivers in B.C. However, retaining this exceptional calibre requires protection of an intact wilderness corridor along the river.

The lower Bulkley - from Moricetown to Hazelton - offers exciting grade 3 & 4 water through a dramatic canyon. It is a high quality day trip area which could be used more intensively than at present. The proximity of this river to highway 16 means it could be easily linked to the touring market.

.10 Downhill Skiing

The best downhill skiing terrain in the Smithers is located at the present ski hill on Hudson Bay Mountain. Major expansion would be possible here both on the east and south slopes. The limiting factor is not the biophysical resource - both the topography and snowfall are exceptional - but rather the distance of Smithers from large population centres.

Other possible downhill ski sites occur; on the southwest flank of Hudson Bay Mountain, the northwest slope of McDonell Ridge, to the southwest of McDonell Lake, approaching the Telkwa Pass and on the east flank of the Babine Mountains. However, all of these lack the proximity to Smithers and the regional airport of the present site. Therefore, downhill skiing development in the STRM area will be focused on expansion at the current location rather than at these other sites.

.11 Automobile Touring

Automobile touring occurs on highway 16, with most visitors moving through the STRM area rapidly. The Smithers community, the campsite at Tyee Lake, the Driftwood Fossil Beds, the Twin Falls area, and to a much lesser extent the Hudson Bay Mountain alpine meadows all contribute to some visitors choosing to linger longer and spend more. The rural country roads around the Driftwood/Glentanna and Moricetown-Telkwa Hi-road corridor offer an appealing touring resource which could be utilized to hold tourists in region for an extra half day. As well, creation of a small interpretive centre at Moricetown Fall could enhance the local touring product.

6.4 TOURISM CAPABILITY MAPPING

While product by product mapping gives information on site quality and geographic distribution of individual activities, it is does not provide a composite overview of the tourism resource. Therefore it is important to be able to combine mapped information on the various products to produce an overlay that summarizes overall tourism resource capability patterns. Since tourism encompasses such a diverse set of products (i.e. each product is associated with a distinct mix of location factors), this is not easily done.

The method chosen must give relative information both on:

1) site quality (for a variety of combined activities)
2) site diversity (to support a number of products)

The following approach was used in the Smithers STRM to do this.

Each product for a site was scored for quality (on the basis of the criteria laid out in section 6.2): **high = 2, moderate = 1**. Then the scores for each product were added together to render an overall tourism capability value for that location. For example, a site in the Babine Mountains with the ability to support high quality backpacking (score of 2), high quality ski-touring (2), moderate quality wildlife viewing (1) and moderate hunting (1) would have an overall tourism capability value of 6.

Tourism capability values for STRM sites were found to range from 1 - 7. These were consolidated into the following classes:

TOURISM CAPABILITY CLASSES

Class	Value
Very High	6-7
High	4-5
Moderate	2-3
Low	1

6.5 TOURISM RESOURCE CAPABILITY SYNOPSIS

The overall tourism resource patterns for the Smithers STRM area as revealed by the Tourism Capability Mapping can be summarized as follows:

- Very High Capability is indicated for the Babine River corridor (trophy fishing, wildlife viewing, rafting, hunting), much of the Babine Mountains (backpacking, wildlife viewing, ski-touring, snowmobiling, hunting), the Telkwa Mountains (wildlife viewing, hunting, backpacking) and parts of Hudson Bay Mountain (downhill skiing, heli-skiing, cat-skiing).

- High Capability is indicated for the northern portion of the Babine Mountains Recreation Area (ski-touring, backpacking, wildlife viewing), McDonell Ridge (snowmobiling, cat-skiing), the west lobe of Hudson Bay Mountain (heli-skiing, cat-skiing) and the Bulkley River near Moricetown (automobile touring, wildlife viewing, fishing, rafting).

- Moderate Capability is indicated for Babine Lake (fishing), most of the Highway 16 corridor (automobile touring), most of the Bulkley River (fishing), the McDonell Lake area (fishing, hunting, snowmobiling), the Telkwa Pass (snowmobiling/hunting), and the southwestern Telkwa Mountains (heli-skiing, backpacking).

- Low Capability is indicated for the Nilkitkwa area (hunting), Suskwa Pass (snowmobiling),and rural roads in the Bulkley Valley (automobile touring)

6.6 METHODOLOGY EVALUATION

Upon completion of the STRM mapping process, the methodology was evaluated by Steering Committee resource members to determine its predictive accuracy/effectiveness. Generally it performed well although a couple of refinements were offered for future use:

1) wind scour significantly affects the capability of certain potential skiing sites (heli, snow-cat, ski-tour, downhill) in the Smithers area. This is because strong winds often blow through the Telkwa and other Coast Mountain passes from the Pacific, stripping away the snow cover and creating severe crust conditions. On southern exposures, the negative effect of this scouring is accentuated by sunshine which rapidly melts the thinned snowpack and exposes rocks. In future analysis therefore, wind direction and severity will be added to the attributes list. As well, due to this factor some potential ski sites originally identified through the STRM process which are subject to wind scour have now been downgraded.

2) Diversity assessment of sites must recognize that some combinations of activities may not be mutually compatible. For example, commercial ski-touring and snowmobiling are unlikely to be compatible. By contrast, ski-touring and backpacking are compatible activities. Even the seemingly conflicting combination of wildlife viewing and guided hunting can be compatible if these activities are separated temporally and if management of the wildlife resource is geared to optimizing the mix of both activities.

A means of determining the degree of harmony which may exist between activities is to undertake a matrix-based Compatibility Assessment. This technique was proposed in the Ministry of Crown Lands sponsored Whistler Commercial Backcountry Recreation Study and is summarized in Appendix 2.

This compatibility issue notwithstanding, as far as the STRM methodology is concerned, the capability of a site to support a diversity of activities is important when identifying its cumulative tourism resource significance. How various activities then can be integrated becomes a planning/management issue.

APPENDIX 1 TOURISM PRODUCT SUMMARIES

1. BIKE TOURING

Sector: Outdoor/Adventure **Focus:** Activity
Tourism Zone: Front
Grouping: Land

1.0 BIOPHYSICAL FACTORS:

1.1 Features:
- .1 **land:** hills/valleys (e), low mountains (1)
- .2 **marine:**
- .3 **slope:** 0-20%
- .4 **vertical:** 75-150m (1), 0-75m (2)

1.2 Climate:
- .1 **zones:** both zones
- .2 **snow:** **depth:**
  powder:
  avalanche risk:
- .3 **visibility**

1.3 Vegetation: dry forest/open forest/grass, general forest

2.0 HUMAN FACTORS:

2.1 Settlement: <20,000 population (e)
- .2 **status:**
- .3 **space requirements:** 50-100 km/day (e)

2.2 Access:
air:
ground: highways (e), small (1), medium (2), other paved roads
marine:

3.0 NATURAL RESOURCE FACTORS:

3.1 Wildlife: **capability:**
viewing sites:

3.2 Fish:

3.3 Recreation, Visual & Cultural:
- .1 **recreation capabilty:** high (1), moderate (2)
- .2 **visual quality:** intact (1)
- .3 **cultural features:** heritage sites (1)

2. MOUNTAIN BIKE

Sector: Outdoor/Adventure **Focus:** Activity
Tourism Zone: Mid, Front, Back
Grouping: Land

1.0 BIOPHYSICAL FACTORS:

1.1 Features:
- .1 **land:** hills/mountains-low (e), mountain- moderate (1)
- .2 **marine:**
- .3 **slope:** 20-40% (e), 40-70% (1), 0-20% (2)
- .4 **vertical:** 150-300m (1), 300-600m (2)

1.2 Climate:
- .1 **zones:** both zones
- .2 **snow:** **depth:**
  powder:
  avalanche risk:
- .3 **visibility**

1.3 Vegetation: general forest (1), sub-alpine (1)

2.0 HUMAN FACTORS:

2.1 Settlement: resort
- .2 **status:**
- .3 **space requirements:** 24-32 km/day of trails; 150km total (e)

2.2 Access:
air:
ground: trails - horse (e), 2nd resource roads
marine:

3.0 NATURAL RESOURCE FACTORS:

3.1 Wildlife: **capability:**
viewing sites:

3.2 Fish:

3.3 Recreation, Visual & Cultural:
- .1 **recreation capabilty:**
- .2 **visual quality:** intact (1), altered (2)
- .3 **cultural features:**

3. TRAIL RIDING

Sector: Outdoor/Adventure
Tourism Zone: Mid, Back
Grouping: Land
Focus: Activity

1.0 BIOPHYSICAL FACTORS:

1.1 Features:
.1 **land:** mountains - moderate (e), mountains - low (1), hills (2)
.2 **marine:**
.3 **slope:** 20-40% (1), 0-20% (1)
.4 **vertical:** 150-600m (1), 75-150m (2)

1.2 Climate:
.1 **zones:** continental (e)
.2 **snow:** **depth:**
powder:
avalanche risk:
.3 **visibility**

1.3 Vegetation: open forest/grass/dry forest/ general forest/ sub-alpine (1), alpine (2)

2.0 HUMAN FACTORS:

2.1 Settlement: <20,000 population
.2 **status:** Crown, rec. lease (e)
.3 **space requirements:** 5-10,000 ha (e), 16 km/day of trails [48-80 km total trails] (e)

2.2 Access:
air: <5 hr drive from regional airport
ground: trails - horse (e)
marine:

3.0 NATURAL RESOURCE FACTORS:

3.1 Wildlife: **capability:**
viewing sites:

3.2 Fish: high (1), moderate (2)

3.3 Recreation, Visual & Cultural:
.1 **recreation capabilty:**
.2 **visual quality:** intact (1), altered (2)
.3 **cultural features:**

4. BACKPACKING

Sector: Outdoor/Adventure **Focus:** Activity
Tourism Zone: Back
Grouping: Land

1.0 BIOPHYSICAL FACTORS:

1.1 Features:
.1 **land:** mountains - moderate (e), mountains - high/tarns (1), mountains - low (2)
.2 **marine:** beach (1)
.3 **slope:** 20-40% (1), 40-70% (2), 0-20% (2)
.4 **vertical:** 150-600m (1), 75-150m (2)

1.2 Climate:
.1 **zones:** continental (1), maritime (2)
.2 **snow:** **depth:**
powder:
avalanche risk:
.3 **visibility**

1.3 Vegetation: sub-alpine (e), alpine (1), general forest (2)

2.0 HUMAN FACTORS:

2.1 Settlement:
.2 **status:** Crown
.3 **space requirements:** >5000 ha (e)

2.2 Access:
air: within 4 hrs drive of regional airport (e), or 1 hr fixed wing flight from airport (e)
ground: resource road to trail head
marine:

3.0 NATURAL RESOURCE FACTORS:

3.1 Wildlife: capability:
viewing sites:

3.2 Fish: high/moderate (1)

3.3 Recreation, Visual & Cultural:
.1 **recreation capabilty:** high/moderate (1)
.2 **visual quality:** intact (e)
.3 **cultural features:** present (1)

5. HELI-HIKING

Sector: Outdoor/Adventure
Tourism Zone: Mid
Grouping: Land
Focus: Activity

1.0 BIOPHYSICAL FACTORS:

1.1 Features:
- .1 **land:** mountains - moderate (e), mountains - high [vistas] (1), tarns (1)
- .2 **marine:**
- .3 **slope:** 0-20% (1), 20-40% (2)
- .4 **vertical:** 600-750m [for heli-lift] (e); 0-150m [for actual walking]

1.2 Climate:
- .1 **zones:** continental (1), maritime (2)
- .2 **snow:** **depth:**
  powder:
  avalanche risk:
- .3 **visibility** >66% flying days; dry zone(e)

1.3 Vegetation: alpine/sub-alpine (e), glacier [to edge of or vista] (1)

2.0 HUMAN FACTORS:

2.1 Settlement: <20,000 population or destination resort
- .2 **status:** Crown
- .3 **space requirements:** 5000 ha?

2.2 Access:
- **air:** 8 min flight from heli base (e)
- **ground:** 3 hr drive from regional airport/large community (e)
- **marine:**

3.0 NATURAL RESOURCE FACTORS:

3.1 Wildlife: **capability:**
viewing sites:

3.2 Fish: enhancer or possible conflict (c)

3.3 Recreation, Visual & Cultural:
- .1 **recreation capabilty:** enhancer or possible conflict (c)
- .2 **visual quality:** intact (e)
- .3 **cultural features:**

6. RAFTING

Sector: Outdoor/Adventure **Focus:** Activity
Tourism Zone: Front, Mid, Back
Grouping: River

1.0 BIOPHYSICAL FACTORS:

1.1 Features:
- .1 **land:** rivers - grade 3/4 (e)
- .2 **marine:**
- .3 **slope:**
- .4 **vertical:**

1.2 Climate:
- .1 **zones:** continental (1), maritime (2)
- .2 **snow:** **depth:**
  powder:
  avalanche risk:
- .3 **visibility**

1.3 Vegetation: dry forest/open forest/grass/subalpine /alpine), general forest (2)

2.0 HUMAN FACTORS:

2.1 Settlement:
- .2 **status:** Crown, recreational licence (e)
- .3 **space requirements:** 24-40 km/d (e)

2.2 Access:
- **air:** max 1 hr fixed wing flight time from regional airport (e), or max 2 hr drive from airport (e)
- **ground:** max. 5 hr drive from large community (e), road access put-in/take-out (e)
- **marine:**

3.0 NATURAL RESOURCE FACTORS:

3.1 Wildlife: capability:
viewing sites:

3.2 Fish: high (1), moderate (2)

3.3 Recreation, Visual & Cultural:
- .1 **recreation capabilty:**
- .2 **visual quality:** intact (e)
- .3 **cultural features:** present (1)

7. CANOEING

Sector: Outdoor/Adventure
Tourism Zone: Mid, Back
Grouping: River
Focus: Activity

1.0 BIOPHYSICAL FACTORS:

1.1 Features:
.1 land: lakes - small/chains (e), rivers - grade 1/2/3 (e)
.2 marine:
.3 slope:
.4 vertical:

1.2 Climate:
.1 zones: continental (1), maritime (2)
.2 snow: depth:
powder:
avalanche risk:
.3 visibility

1.3 Vegetation: open forest/grass/dry forest/general forest /sub-alpine

2.0 HUMAN FACTORS:

2.1 Settlement:
.2 status: Crown
.3 space requirements: 24-32 km/day (e)

2.2 Access:
air: max 1 hr fixed wing flight from regional airport (e), or ground access
ground: road accessible put-in/take-out points (e), or air
marine:

3.0 NATURAL RESOURCE FACTORS:

3.1 Wildlife: capability:
viewing sites:

3.2 Fish: high (1), moderate (2)

3.3 Recreation, Visual & Cultural:
.1 recreation capabilty:
.2 visual quality: intact (e)
.3 cultural features: present (1)

8. RIVER KAYAKING

Sector: Outdoor/Adventure Focus: Activity
Tourism Zone: Front, Mid
Grouping: River

1.0 BIOPHYSICAL FACTORS:

1.1 Features:
.1 land: rivers - grade 3/4 (e), grade 5 [experts only] (1)
.2 marine:
.3 slope:
.4 vertical:

1.2 Climate:
.1 zones: both zones
.2 snow: depth:
powder:
avalanche risk:
.3 visibility

1.3 Vegetation: all zones except glacier, alpine/subalpine (2)

2.0 HUMAN FACTORS:

2.1 Settlement:
.2 status: Crown
.3 space requirements: 16-32 km (e)

2.2 Access:
air:
ground: road accessible put-in and take out points (e)
marine:

3.0 NATURAL RESOURCE FACTORS:

3.1 Wildlife: capability:
viewing sites:

3.2 Fish:

3.3 Recreation, Visual & Cultural:
.1 recreation capabilty:
.2 visual quality: intact (1)
.3 cultural features:

9. LAKE SAIL CRUISE

Sector: Outdoor/Adventure
Tourism Zone: Front, Mid
Grouping: Lake

Focus: Activity

1.0 BIOPHYSICAL FACTORS:

1.1 Features:
.1 land: lakes-large (e)
.2 marine:
.3 slope:
.4 vertical:

1.2 Climate:
.1 zones: continental
.2 snow: depth:
powder:
avalanche risk:
.3 visibility

1.3 Vegetation: grass/open forest/dry forest

2.0 HUMAN FACTORS:

2.1 Settlement: <20,000->100,000 population, resorts
.2 status: Crown
.3 space requirements:

2.2 Access:
air:
ground: road access to lake(e)
marine: marinas/anchorages (e)

3.0 NATURAL RESOURCE FACTORS:

3.1 Wildlife: capability:
viewing sites:

3.2 Fish: high/moderate (1)

3.3 Recreation, Visual & Cultural:
.1 recreation capabilty: high/moderate (1)
.2 visual quality: intact (1)
.3 cultural features: present (1)

10. HELI-SKIING

Sector: Outdoor/Adventure Focus: Activity
Tourism Zone: Mid
Grouping: Winter

1.0 BIOPHYSICAL FACTORS:

1.1 Features:
.1 land: mountains - moderate (e)
.2 marine:
.3 slope: 40-70% (e), terrain breaks a constraint
.4 vertical: 750-1500(+)m (e)

1.2 Climate:
.1 zones: continental (1), maritime (2)
.2 snow: depth: 1-2m (e)
powder: dry (1), wet (2)
avalanche risk: acceptable (e)
.3 visibility >66% flying days; dry zone (1), 33-66% flying days; wet/moist zone (2); >33% (e)

1.3 Vegetation: subalpine/alpine (e), glacier (1)

2.0 HUMAN FACTORS:

2.1 Settlement: heli-lodge, <20,000 population or destination resort (e)
.2 status: Crown/recreation lease (e)
.3 space requirements: 1500-2500 km2 [week]/500 km2 [day] (e)

2.2 Access:
air: max 5 hrs drive from regional airport (e), max 15 min heli flight to base (e); <8 min heli (1); >8<15 min. flight (2)
ground: resource road access to lodge (e)
marine:

3.0 NATURAL RESOURCE FACTORS:

3.1 Wildlife: capability:
viewing sites:

3.2 Fish:

3.3 Recreation, Visual & Cultural:
.1 recreation capabilty: moderate constraints (2)
.2 visual quality: intact/partial (1), altered (2)
.3 cultural features:

Tourism Product Location Factors

11. SNOWCAT-SKIING

Sector: Outdoor/Adventure
Tourism Zone: Mid
Grouping: Winter

Focus: Activity

1.0 BIOPHYSICAL FACTORS:

1.1 Features:
- .1 **land:** mountains - moderate (e)
- .2 **marine:**
- .3 **slope:** 40-70% (e), terrain breaks are constraint
- .4 **vertical:** 300-600m

1.2 Climate:
- .1 **zones:** continental (1), maritime (2)
- .2 **snow:** **depth:** >1 m (e)
  powder:
  avalanche risk: acceptable (e)
- .3 **visibility**

1.3 Vegetation: sub-alpine/alpine (e)

2.0 HUMAN FACTORS:

2.1 Settlement: <20,000 population
- .2 **status:** Crown, recreation lease (e)
- .3 **space requirements:** 3000 ha (e), 40 runs [weekly]/20 runs [daily] (e)

2.2 Access:
air: max 5 hrs drive from regional airport (e)
ground: road access to base lodge and subalpine or max 3 hrs drive from large community (e)
marine:

3.0 NATURAL RESOURCE FACTORS:

3.1 Wildlife: **capability:**
viewing sites:

3.2 Fish:

3.3 Recreation, Visual & Cultural:
- .1 **recreation capabilty:**
- .2 **visual quality:** intact (1), altered (2)
- .3 **cultural features:**

12. SNOWMOBILING

Sector: Outdoor/Adventure **Focus:** Activity
Tourism Zone: Mid
Grouping: Winter

1.0 BIOPHYSICAL FACTORS:

1.1 **Features:**
.1 **land:** mountains (e) - moderate (1),- low (2), lakes (1)
.2 **marine:**
.3 **slope:** 20-40% (1), 0-20% (2), terrain breaks a constraint (c)
.4 **vertical:** 150-600m (1), 75-150m (2)

1.2 **Climate:**
.1 **zones:** continental (1), maritime (2)
.2 **snow:** **depth:** >1 m (e)
powder: dry (1), wet (2)
avalanche risk: acceptable (e)
.3 **visibility**

1.3 **Vegetation:** general forest/sub-alpine/alpine (1), glacier (2)

2.0 HUMAN FACTORS:

2.1 **Settlement:** <20,000 population
.2 **status:** Crown
.3 **space requirements:** 150 km of trail (e)

2.2 **Access:**
air:
ground: trails/resource roads (e), max 5 hrs drive from market (e)
marine:

3.0 NATURAL RESOURCE FACTORS:

3.1 **Wildlife: capability:**
viewing sites:

3.2 **Fish:**

3.3 **Recreation, Visual & Cultural:**
.1 **recreation capabilty:**
.2 **visual quality:** intact (1), altered (2)
.3 **cultural features:**

13. CROSS-COUNTRY SKIING

Sector: Outdoor/Adventure
Tourism Zone: Front
Grouping: Winter
Focus: Activity

1.0 BIOPHYSICAL FACTORS:

1.1 Features:
.1 land: hills (1), valleys (2)
.2 marine:
.3 slope: 0-20% (1), 20-40% (2)
.4 vertical: 0-75m (e)

1.2 Climate:
.1 zones: continental (1), maritime (2)
.2 snow: depth: >50 mm (e)
powder: dry (1), wet (2)
avalanche risk:
.3 visibility

1.3 Vegetation: general forest

2.0 HUMAN FACTORS:

2.1 Settlement: <20,000 population or destination resort (e)
.2 status: Crown, private
.3 space requirements: 50-100 km trails (e)

2.2 Access:
air:
ground: max 15 min drive of small community/resort (e), ski trails (e)
marine:

3.0 NATURAL RESOURCE FACTORS:

3.1 Wildlife: capability:
viewing sites:

3.2 Fish:

3.3 Recreation, Visual & Cultural:
.1 recreation capabilty:
.2 visual quality: intact (1), altered (2)
.3 cultural features:

14. SKI-TOURING

Outdoor/Adve

Focus: Activity
Tourism Zone: Back
Grouping: Winter

1.0 BIOPHYSICAL FACTORS:

1.1 Features:
.1 land: mountains - moderate (e), tarns (1)
.2 marine:
.3 slope: 40-70% [to 60%] (1), 20-40% (2)
.4 vertical: 150-300m (1), 75-150m (2)

1.2 Climate:
.1 zones: continental (1), maritime (2)
.2 snow: depth: >1m (e)
powder: dry (1), wet (2)
avalanche risk: acceptable (e)
.3 visibility

1.3 Vegetation: sub-alpine (e), alpine/general forest (2)

2.0 HUMAN FACTORS:

2.1 Settlement:
.2 status: Crown
.3 space requirements: 5000 ha (e), 8-16 km trail/day between cabins

2.2 Access:
air: max 3 hr drive from regional airport (e), max 15 min heli flight (e)
ground: or max 1 hr snow cat access to base if ground access (e)
marine:

3.0 NATURAL RESOURCE FACTORS:

3.1 Wildlife: capability:
viewing sites:

3.2 [illegible]:

3.3 Recreation, Visual & Cultural:
.1 recreation capabilty: high (1), moderate (2)
.2 visual quality: intact (e)
.3 cultural features:

15. DOG-SLEDDING

Sector: Outdoor/Adventure
Tourism Zone: Mid, Back
Grouping: Winter
Focus: Activity

1.0 BIOPHYSICAL FACTORS:

1.1 Features:
- .1 **land:** lakes - large/small/chains (e), valleys (e)
- .2 **marine:**
- .3 **slope:** 0-20% (e)
- .4 **vertical:** 0-75m (e)

1.2 Climate:
- .1 **zones:** continental (e)
- .2 **snow:** **depth:** 1-2m (e)
  powder: dry (e)
  avalanche risk: acceptable
- .3 **visibility**

1.3 Vegetation: general forest/sub-alpine/alpine

2.0 HUMAN FACTORS:

2.1 Settlement:
- .2 **status:** Crown
- .3 **space requirements:** 24 km/day (e)

2.2 Access:
air: max 5 hr drive from regional airport (e)
ground: road access to trail head (e)
marine:

3.0 NATURAL RESOURCE FACTORS:

3.1 Wildlife: **capability:**
viewing sites:

3.2 Fish:

3.3 Recreation, Visual & Cultural:
- .1 **recreation capabilty:**
- .2 **visual quality:** intact (e)
- .3 **cultural features:**

16. GUIDED HUNTING

Sector: Outdoor/Adventure **Focus:** Activity
Tourism Zone: Mid, Back
Grouping: Fish & Wildlife

1.0 BIOPHYSICAL FACTORS:

1.1 Features:
- .1 **land:** mountains - moderate (1), mountains-low/hills/valleys/plains (2)
- .2 **marine:**
- .3 **slope:** 0-20%/20-40% (1), 40-70% (2)
- .4 **vertical:** 0-75m/75-150m (1), 150-600m (2)

1.2 Climate:
- .1 **zones:** continental (1), maritime (2)
- .2 **snow:** **depth:**
  powder:
  avalanche risk:
- .3 **visibility**

1.3 Vegetation: all zones except glacier, pasture/hayland within 300 km of base camp for overwintering stock

2.0 HUMAN FACTORS:

2.1 Settlement:
- .2 **status:** Crown, recreation license/territory (e)
- .3 **space requirements:** ?

2.2 Access:
air: 2 hour fixed wing flight max from regional airport
ground: road access to base camp (e), trails-horse (e)
marine:

3.0 NATURAL RESOURCE FACTORS:

3.1 Wildlife: capability:
viewing sites:

3.2 Fish: high/moderate (1)

3.3 Recreation, Visual & Cultural:
- .1 **recreation capabilty:**
- .2 **visual quality:** intact (1) altered (2)
- .3 **cultural features:**

17. WILDLIFE VIEWING

Sector: Outdoor/Adventure
Tourism Zone: Front, Mid, Back
Grouping: Fish & Wildlife
Focus: Activity

1.0 BIOPHYSICAL FACTORS:

1.1 Features:
.1 land: all landscapes, valleys (1)
.2 marine: all marine-scapes, mouth/estuary (1)
.3 slope: 0-20%, 20-40%, 40-70%
.4 vertical:

1.2 Climate:
.1 zones: continental (1), maritime (2)
.2 snow: depth: <1 m (1)
powder:
avalanche risk:
.3 visibility

1.3 Vegetation: all zones except glacier focusses on winter range

2.0 HUMAN FACTORS:

2.1 Settlement:
.2 Status: Crown
.3 space requirements: varies by site/species

2.2 Access:
air: max 2 hrs fixed wing flight from regional airport [backcountry]
ground: highway and resource road access [front/midcountry] (e)
marine: max 1 hr boat access frontcountry/max 3 hr midcountry (e)

3.0 NATURAL RESOURCE FACTORS:

3.1 Wildlife: capability:
viewing sites:

3.2 Fish:

3.3 Recreation, Visual & Cultural:
.1 recreation capabilty:
.2 visual quality: intact (e)
.3 cultural features:

18. GUIDED FISHING

Sector: Outdoor/Adventure **Focus:** Activity
Tourism Zone: Mid, Front, Back
Grouping: Fish & Wildlife

1.0 BIOPHYSICAL FACTORS:

1.1 Features:
- .1 **land:** lakes (e), rivers - grade 1/2 (e)
- .2 **marine:** all features
- .3 **slope:**
- .4 **vertical:**

1.2 Climate:
- .1 **zones:** both zones
- .2 **snow:** **depth:**
  powder:
  avalanche risk:
- .3 **visibility**

1.3 Vegetation: all zones except glacier/alpine

2.0 HUMAN FACTORS:

2.1 Settlement: <20,000 population, fishing resorts (e)
- .2 **status:** Crown, private, recreation lease (e)
- .3 **space requirements:** 5-20 ha

2.2 Access:
air: max 2 hr fixed wing flight/3 hr drive from regional airport (e)
ground: road access to lodge if not fly-in (e)
marine: anchorage (e), marina (1)

3.0 NATURAL RESOURCE FACTORS:

3.1 Wildlife: **capability:**
viewing sites:

3.2 Fish: high/moderate (e), high (1), moderate (2)

3.3 Recreation, Visual & Cultural:
- .1 **recreation capabilty:** high/moderate (1)
- .2 **visual quality:** intact (1), altered (2)
- .3 **cultural features:**

19. FRONTIER RUSTIC RESORT

Sector: Resort
Tourism Zone: Mid
Grouping:

Focus: Facility

1.0 BIOPHYSICAL FACTORS:

1.1 Features:
- .1 **land:** lakes/rivers (e), mountains (1)
- .2 **marine:** waterfront (e), beach (1)
- .3 **slope:** 0-20%
- .4 **vertical:**

1.2 Climate:
- .1 **zones:**
- .2 **snow:** **depth:**
  powder:
  avalanche risk:
- .3 **visibility**

1.3 Vegetation: sub-alpine (1), general forest (2)

2.0 HUMAN FACTORS:

2.1 Settlement:
- .2 **status:** Crown with lease/ private (e)
- .3 **space requirements:** 5-20 ha (e)

2.2 Access:
air: max 2 hr fixed wing flight time from regional airport (e), or 3 hr max drive from airport (e)
ground: or 5 hr max drive from large community (e)
marine:

3.0 NATURAL RESOURCE FACTORS:

3.1 Wildlife: **capability:**
viewing sites:

3.2 Fish: high (1), moderate (2)

3.3 Recreation, Visual & Cultural:
- .1 **recreation capabilty:** high/moderate (1)
- .2 **visual quality:** intact (e)
- .3 **cultural features:**

20. GOLF RESORT

Sector: Resort Focus: Facility
Tourism Zone: Front
Grouping:

1.0 BIOPHYSICAL FACTORS:

1.1 Features:
.1 land: valleys/plains (e), river/lake (1)
.2 marine:
.3 slope: 0-20% (e)
.4 vertical: 0-75m (e)

1.2 Climate:
.1 zones: both zones
.2 snow: depth:
powder:
avalanche risk:
.3 visibility

1.3 Vegetation: dry forest/open forest/grass

2.0 HUMAN FACTORS:

2.1 Settlement: 20,000->100,000 population; resorts (e)
.2 status: private (e)
.3 space requirements: 40-100 ha (e)

2.2 Access:
air: max 3 hr. drive from regional airport (e), max 2hr drive from international airport (1)
ground: or max 3 hr drive from large community (e)
marine:

3.0 NATURAL RESOURCE FACTORS:

3.1 Wildlife: capability:
viewing sites:

3.2 Fish:

3.3 Recreation, Visual & Cultural:
.1 recreation capabilty:
.2 visual quality: intact (e)
.3 cultural features:

21. GUEST RANCHES

Sector: Resort
Tourism Zone: Front
Grouping:

Focus: Facility

1.0 BIOPHYSICAL FACTORS:

1.1 Features:
.1 land: hills/valleys/plains (e), lakes/rivers (e)
.2 marine:
.3 slope: 0-20%
.4 vertical: 0-75m

1.2 Climate:
.1 zones: continental (e)
.2 snow: depth: <1 m (e)
powder:
avalanche risk:
.3 visibility

1.3 Vegetation: grass/open forest/dry forest

2.0 HUMAN FACTORS:

2.1 Settlement: <20,000 population
.2 status: private with Crown lease (e)
.3 space requirements: >75 ha private land [plus Crown range] (e)

2.2 Access:
air: max 2 hr drive from regional airport (e)
ground: road access (e), trails (e)
marine:

3.0 NATURAL RESOURCE FACTORS:

3.1 Wildlife: capability:
viewing sites:

3.2 Fish: high/moderate (1)

3.3 Recreation, Visual & Cultural:
.1 recreation capabilty: high/moderate (1)
.2 visual quality: intact (e)
.3 cultural features:

22. FAMILY/GENERAL RESORT

Sector: Resort **Focus:** Facilty
Tourism Zone: Front
Grouping:

1.0 BIOPHYSICAL FACTORS:

1.1 Features:
.1 land: lakes (e), river - grade 1/2 (1), mountains (1)
.2 marine:
.3 slope: 0-20% (e)
.4 vertical: 0-75m

1.2 Climate:
.1 zones: both zones
.2 snow: **depth:**
powder:
avalanche risk:
.3 visibility

1.3 Vegetation: all zones except glaciers

2.0 HUMAN FACTORS:

2.1 Settlement: <20,000 population
.2 status: private/Crown with lease (1)
.3 space requirements: 5-100 ha (e)

2.2 Access:
air: max 2 hr drive from regional airport (e)
ground: or max 5 hr drive from large community (e)
marine:

3.0 NATURAL RESOURCE FACTORS:

3.1 Wildlife: capability:
viewing sites:

3.2 Fish: high/moderate (1)

3.3 Recreation, Visual & Cultural:
.1 recreation capabilty: high/moderate (1)
.2 visual quality: intact (e)
.3 cultural features: present (1)

23. DOWNHILL SKI RESORT

Sector: Resort
Tourism Zone: Front
Grouping:

Focus: Facility

1.0 BIOPHYSICAL FACTORS:

1.1 Features:
.1 land: mountains - moderate (e)
.2 marine:
.3 slope: 0-20%/20-40%/40-70% (e)
.4 vertical:

1.2 Climate:
.1 zones: continental (1), maritime (2)
.2 snow: depth: >1m (e)
powder: dry (1), wet (2)
avalanche risk: acceptable
.3 visibility >66% flying days; dry zone/33-66% flying days; wet/moist zone (e)

1.3 Vegetation: sub-alpine/general forest/alpine

2.0 HUMAN FACTORS:

2.1 Settlement: <20,000->100,000 population, resorts (e)
.2 status: private/Crown with lease (e)
.3 space requirements: 250 - 500 ha; 20-100 runs (e)

2.2 Access:
air: max 3 hr drive of regional airport (e), max 3 hr drive of international airport
ground: max 3 hr drive of large community (e), max 2 hr drive of large community (1)
marine:

3.0 NATURAL RESOURCE FACTORS:

3.1 Wildlife: capability:
viewing sites:

3.2 Fish:

3.3 Recreation, Visual & Cultural:
.1 recreation capabilty:
.2 visual quality: intact (1), altered (2)
.3 cultural features: present (1)

24. RAIL TOURING

Sector: Touring **Focus:** Transportation
Tourism Zone: Front
Grouping:

1.0 BIOPHYSICAL FACTORS:

1.1 Features:
.1 **land:** all landscapes, mountains/lakes/rivers (1)
.2 **marine:**
.3 **slope:** 0-20%, 20-40%, 40-70% [viewscape, not track gradient]
.4 **vertical:**

1.2 Climate:
.1 **zones:** both zones
.2 **snow:** **depth:**
powder:
avalanche risk:
.3 **visibility**

1.3 Vegetation: open forest/grass/sub-alpine/alpine (1), general forest/dry forest (2)

2.0 HUMAN FACTORS:

2.1 Settlement: <20,000->100,000 population (e)
.2 **status:**
.3 **space requirements:** 3-500 km/day

2.2 Access:
air:
ground: railways with passenger service (e)
marine:

3.0 NATURAL RESOURCE FACTORS:

3.1 Wildlife: **capability:**
viewing sites:

3.2 Fish:

3.3 Recreation, Visual & Cultural:
.1 **recreation capabilty:**
.2 **visual quality:** intact (e), nat. import. (1), provincial import (2)
.3 **cultural features:**

25. BUS TOURING

Sector: Touring
Tourism Zone: Front
Grouping:
Focus: Transportation

1.0 BIOPHYSICAL FACTORS:

1.1 Features:
.1 land: all landscapes, mountains/lakes/rivers (1)
.2 marine:
.3 slope: 0-20%, 20-40%, 40-70%
.4 vertical:

1.2 Climate:
.1 zones: both zones
.2 snow: depth:
powder:
avalanche risk:
.3 visibility

1.3 Vegetation: open forest/grass/sub-alpine/alpine (1), general forest/dry forest (2)

2.0 HUMAN FACTORS:

2.1 Settlement: <20,000->100,000 population (e)
.2 status:
.3 space requirements: 3-500 km/day

2.2 Access:
air:
ground: highways (e)
marine:

3.0 NATURAL RESOURCE FACTORS:

3.1 Wildlife: capability:
viewing sites:

3.2 Fish:

3.3 Recreation, Visual & Cultural:
.1 recreation capabilty:
.2 visual quality: intact (e), nat. import. (1), provincial import (2)
.3 cultural features: present (1)

26. AUTOMOBILE TOURING

Sector: Touring
Tourism Zone: Front
Grouping:
Focus: Transportation

1.0 BIOPHYSICAL FACTORS:

1.1 **Features:**
.1 **land:** all landscapes, mountains/lakes/ rivers (1)
.2 **marine:**
.3 **slope:** 0-20%, 20-40%, 40-70%
.4 **vertical:**

1.2 **Climate:**
.1 **zones:** both zones
.2 **snow:** **depth:**
powder:
avalanche risk:
.3 **visibility**

1.3 **Vegetation:** open forest/grass/sub-alpine/alpine (1), general forest/dry forest (2)

2.0 HUMAN FACTORS:

2.1 **Settlement:** <20,000->100,000 population, resorts (e)
.2 **status:** Crown/private
.3 **space requirements:** 100 - 500 km/day

2.2 **Access:**
air:
ground: highways (e)
marine:

3.0 NATURAL RESOURCE FACTORS:

3.1 **Wildlife: capability:**
viewing sites:

3.2 **Fish:**

3.3 **Recreation, Visual & Cultural:**
.1 **recreation capabilty:** high (1), moderate (2)
.2 **visual quality:** intact (e), nat. import. (1), prov. import (2)
.3 **cultural features:** present (1)

APPENDIX 2 COMPATIBILITY ASSESSMENT METHODOLOGY

As with any natural resource sector, adventure tourism resource planning requires that conflict assessment between competing land users be undertaken as a precursor to land-use integration. This means that potential conflicts both between adventure tourism and other resource sectors, as well as between different adventure tourism activities must be evaluated.

Such conflict potential assessment is essential to eliminate those locations which are unsuitable for adventure tourism developments. The assessment process involves two steps:

1. the degree of harmony between different land uses is assessed with a **Compatibility Index.**

2. the intensity for potential conflict is then determined by the level of use associated with interacting activities (referred to as the **Intensity Index**).

Referring first to the **Compatibility Index**, compatibility can be quantified on a 1 - 5 scale based on the information supplied through a public/ tourist operator interview process. A rating of 1 indicates the highest level of compatibility between two land uses, whereas 5 indicates the lowest (i.e. the greatest potential for friction). Due to the number of activities associated with the adventure tourism sector, the Compatibility Index are recorded in a a Matrix which is broken into winter and summer sub-components. Such a matrix derived from the Whistler-Pemberton Commercial Backcountry Recreation Study is shown below.

WHISTLER STUDY ADVENTURE TOURISM COMPATIBILITY MATRIX

A) Winter

Activity	heli-ski	cat-ski	snowmobile		ski-tour	
			c*	r	c	r
heli-skiing	-					
cat-skiing	5	-				
snowmobile (commercial)	5	5	-			
" (recreation)	4	5	1	-		
ski-touring (commercial)	5	5	5	5	-	
" (recreation)	5	5	5	5	2	-
wildlife (winter range)	5	4	5	5	1	1
forestry	2	2	1	1	2	2
wilderness	5	5	5	5	1	1

(* c - commercial; r - recreational)

B) Summer

Activity	heli hike	4x4	trail ride		back pack		mtn bike		raft	
			c	r	c	r	c	r	c	r
heli-hiking	-									
4x4 driving (recreation)	1	-								
trail riding(commercial)	5	4	-							
" " (recreation)	4	3	1	-						
backpacking (commercial)	5	5	2	2	-					
" " (recreation)	5	5	2	2	2	-				
mountain bike(commercial)	3	1	3	3	3	3				
" " (recreation)	3	1	3	3	2	2	1	-		
raft/canoe(commercial)	1	1	1	1	1	1	1	1	-	
canoe/kayak (recreation)	1	1	1	1	1	1	1	1	1	-
wildlife (CLI 1&2)	4	3	1	1	1	1	1	1	1	1
forestry	1	1	2	2	3	3	1	1	1	1
wilderness	5	5	1	1	1	1	2	2	1	1

With the degree of compatibility assessed for interacting activities, the **Intensity Index** can then be determined on the basis of frequency of use. Usage is broken into 3 categories: frequent/moderate/ occasional. In the Whistler Study, the users (be they commercial operator or public group) mapped this classification onto the study area land base themselves. Statistically, these categories are treated as a 3 step rank scale, and weighted as follows: frequent - 3; moderate - 2; occasional - 1.

To determine the **Conflict Potential** for interacting activities the Compatibility Index is multipled by the Intensity Index to render the resulting Conflict Potential Rating, (i.e. **Conflict Potential = (Compatibility Index) x (Intensity Index)**. This yields the following conflict potential categories:

Category	Scoring
High Conflict Potential	11 - 15
Moderate " "	6 - 10
Low " "	1 - 5

This Conflict Potential rating can then be applied as follows to analyzing land use suitability of a particular site for a potential adventure tourism development:

- **High Conflict Potential** adventure tourism Development Opportunity Sites are deleted from further consideration.

- **Moderate Conflict Potential** opportunity sites are retained for further consideration but are subjected to careful public, government and operator scrutiny. In some instances as a result of such scrutiny, management prescriptions can be developed that enable such moderate conflict potential sites to be classed as viable development opportunities. In other instances, further investigation reveals them to be unsuitable for development. These then are dropped from further consideration.

- **Low Conflict Potential** sites are ones deemed to be suitable for adventure tourism development without further scrutiny.

In summary, the Conflict Potential Assessment process is a mapping-based, public participation "triage" technique. It represents an efficient, credible means of identifying suitable adventure tourism development sites which will minimize or avoid conflicts with other land users..

Source cited: The Whistler-Pemberton Commercial Backcountry Recreation Study: undertaken for B.C. Ministry of Crown Lands. April 1990.

Ric Careless
September, 1990

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